"A STUDY TO ASSESS THE EFFECTIVENESS OF LUMBAR SUPPORT IN REDUCING LOWER BACK PAIN AMONG WOMEN UNDERGONE CAESAREAN SECTION AT INSTITUTE OF OBSTETRICS AND GYNAECOLOGY, EGMORE, CHENNAI-08".

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A dissertation submitted to
THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI-600 032.

In partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE IN NURSING
APRIL -2014

CERTIFICATE

This is to certify that this dissertation titled, **"A STUDY TO ASSESS THE EFFECTIVENESS OF LUMBAR SUPPORT IN REDUCING LOWER BACK PAIN AMONG WOMEN UNDERGONE CAESAREAN SECTION AT INSTITUTE OF OBSTETRICS AND GYNAECOLOGY, EGMORE, CHENNAI-08",** is a bonafide work done by **Mrs. J. Nagalakshmi,** College of Nursing, Madras Medical College, Chennai-03, submitted to The Tamil Nadu Dr. M.G.R. Medical University, Chennai, in partial fulfillment of the university rules and regulations towards the award of the degree of Master of Science in Nursing, Branch – III Obstetrics and Gynaecological Nursing, under our guidance and supervision during academic period from 2012-2014.

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5	Research Consent Form
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ABSTRACT

A study to assess the effectiveness of lumbar support in reducing lower back pain among women undergone caesarean section at Institute of Obstetrics and Gynaecology, Egmore, Chennai-08. Recent studies have revealed that the rate of mothers undergoing caesarean section is an increasing trend. Lower back pain is one of the major annoying discomfort for the women during their early post-operative period. Keeping this in mind the study aimed at assessing the effectiveness of a simple and affordable comfort aid, pillow, to serve as lumbar support, to support the back to reduce and prevent lower back pain among these women. True experimental design was adopted. Sample size was 60, it was divided in experimental and control group equally with 30 samples from two different wards. Simple random sampling technique was used. Data were collected by using structured interview schedule and pain assessment scale and analysed using Chi-square test. In pretest among the experimental group, majority of the mothers had severe level of pain that is 66.7% and 33.3% of the women had moderatelevel of pain.In the control group, 40.0% of the women sensed moderate level of pain and 60% experience severe level ofpain.In posttest, in the experimental group, 13.3% of the women felt no pain and 86.7% of the women had mildlevel of pain. In the control group, 83.3% of the women had moderate level of pain and 16.7% had severe level of pain.As on anaverage,experimental women got their pain reduced at the level of 55% pain score whereas control group 14% .In the experimental group the mean pain score difference is as high as 5.54 which is highly significant but in control group the mean pain score difference was 1.4, which is minimally significant. Whenever the post caesarean section mothers sit up, the back pain will be reduced by exercising this lumbar support and it will bring healthy life. By practicing lumbar support at the early stage of post-operative period, will not lead to chronic back pain in long term.

CHAPTER I
INTRODUCTION

“Turn your pain into wisdom” –Oprah Winfrey.

“Numbing the pain for a while will make it worse when you finally feel it”-J.K.Rowling

Backache is a common public health problem and a major psychological, physical and economical burden for the individual and the society. Back pain is one of the most frequent complaints for human being and a common reason for physician visits. It is estimated that nine out of ten adults experience backache at least once in their lifetime and five out of ten working adults have back pain every year.

Lower back pain is one of the important side effects of the caesarean section surgery. Main cause of this pain is due to poor posture after surgery. This can lead to chronic back pain. Many women are undergoingcaesarean section today.The caesarean section greatly increases the risk for injury in a postpartum woman.The caesarean section surgery involves cutting through the abdominal muscles.This results in a much longer recovery time to gain lumbar stabilization from the abdominal muscles. A woman who got a caesarean section done, needs to be particularly careful to use proper lifting mechanics when holding her child and lifting the objects that can strain the back and abdominal muscles.

When the mother is not aware of support to place lumbar region in the neutral position, she strains the back and hurts it which will eventually land up in lower back pain. Back pain happens to almost all the women at some times during or after their pregnancy. It’s the most common side effect of delivering through a caesarean section. After a Lower segment caesarean section delivery, the pain is felt most often in the lower back, starting at the tail bone and upper hips, and radiating upwards. Some women report exclusive pain in their left of the spine. This pain tends to aggravate after delivery especially in a caesarean section due to numerous reason which are stated as below as:

- During the surgery, although the epidural that injects anesthesia into the spinal fluid causes only a slight discomfort, itching, tingling or numbness, later it might cause swelling and chronic pain in some women.

- A muscular imbalance that puts undue stress on their spine and pelvis and a post-operative scar tissue which might get stretched above the pubic bone may also cause a lot of back pain.

- The back might feel sore if the mother has been into a prolonged labour before the caesarean section.

- The pain gets worse with the use of an uncomfortable mattress and the poor posture of the woman while breastfeeding.

1.1 NEED FOR THE STUDY:

Among all deliveries, 15% of births worldwide occur by caesarean section.

- Betran AP, et al.

After reviewing the percentage of pregnancies with complications the best resolved by Caesarean section, WHO announced that a cesarean rate of 15 percent was ideal. The 15 percent rate, WHO reasoned, would optimally prevent childbirth injuries and deaths.

- Harvard Magazine, 2013.

The World Health Statistics (WHS), 2012, released on Wednesday, said 9% of all births in India are by Caesarian section. The latest figure has gone up to 5% since nearly one in 10 women in India who gave birth between 2005 and 2010 had undergone the surgical knife.

President of The Federation of Obstetric and Gynaecological Societies of India (FOGSI) Dr P K Shah said that over the last two decades, deliveries by caesarean section have increased about 25% in teaching hospitals and by at least 50% in private hospitals.

- Kounteya Sinha, 2012.

Statistics at Institute of Obstetrics and Gynaecology, Chennai, states that the number of mothers undergoing caesarean section is 8.3% among the total deliveries during the year 2012 and 2013.

–Medical Records Department, IOG, Chennai.

It is a known fact that some women experience back pain after caesarean. Back pain after caesarean can also be caused by a muscle imbalance-our abdominal muscles during pregnancy being stretched to their limit and our back muscles being constantly tight to compensate for our weak abdominal muscles. A muscle imbalance such as this can throw out spine and pelvis out of whack causing constant back pain.

Irrespective of anaesthetic techniques, back pain has been felt in almost 25% of the patients who have undergone surgical operations under general or spinal anaesthesia.

Cesarean delivery patients have even more compelling reasons to achieve optimal postoperative pain relief, as they present with unique challenges; such as, a higher risk for thromboembolic events, which may also be precipitated by immobility from inadequate pain control or excessive sedation associated with the use of opioids. Moreover, these women want to be alert and energetic enough to look after, interact withand breastfeed their newborn.

Mothers should be encouraged to nurse the infant in a seated position. She should support the lower back by placing a pillow. Maintaining good and proper posture remains at the forefront of back pain abatement.

- Dr.Diane Benizzi DiMarco.

Multiple factors are involved in the pathogenesis of postoperative back pain It includes type and duration of surgery, duration of immobilization, surgical positioning and excessive stretching of ligaments. The lower back pain due to caesarean section is

more devastating for the mother and some measures have to be taken to reduce the pain.

Though there are many pharmacological and non-pharmacological measures available today, most of the hospitals neglect the lower back pain. So the investigator intends to investigate on reduction of lower back pain with lumbar support which will bring out the study's results as evidence for pain management.

There are non-pharmacological measures such as hot and cold massages and uses of comfort devices.One such measure is provision of pillow at the lumbar region of the back. This physically prevents from slumped position and stops the prolonged flexion stresses which helps to reduce ligament creep and can significantly relieve lower back pain.

The investigator assumes that the post caesarean section mothers who are in the early post-operative period, are the target population for this study. They are the beneficiaries of this study. The other reason why it is so important to maintain the back posture is to prevent long term back pain.

1.2 STATEMENT OF THE PROBLEM

A study to assess the effectiveness of lumbar support in reducing lower back pain among women undergone caesarean section at Institute of Obstetrics and Gynaecology, Egmore, Chennai-08.

1.3 OBJECTIVES:

1. To assess the pre-assessment level of lower back pain among the post caesarean Section mothers in both the experimental and the control group.
2. To assess the post-assessment level of lower back pain among the post caesarean section mothers inthe experimental group after providing lumbar support with pillow.
3. To assess the post-assessment level of lower back pain among the post caesarean section mothers in the control groupafter providing conventional measures.

4. To compare the pre-assessment and the post-assessment level of lower back pain group.

5. To associate the pre-assessment and the post-assessment level of lower back pain among the post caesarean section mothers in both the experimental and the control group with selected demographic variables.

1.4 OPERATIONAL DEFINITION(S):

Effectiveness

It refers to the action in terms of reduction in pain or outcome byproviding lumbar support with pillow; this will be elicited by modifiedcombinedcategoricalnumericalpainscale.

Lumbar support:

Firm fabric pillow which is a comfortable device used as the lumbar support to be kept at the lumbar region of our back to neutralize the lumbar vertebrae.

Lower back pain:

Lower back pain is a discomfort felt in the lumbar region by the women who have undergone Caesarean Section.

Women:

Women are the mothers who have undergone caesarean section in the early period of 3-7 days and have lower back pain.

Caesarean Section:

This is surgical management done to the mothers who cannot deliver babies vaginally.

1.5 ASSUMPTIONS:

Lumbar support reduces lower back pain in women who have undergone caesarean section. It will be very effective in preventing long term back pain.

1.6 HYPOTHESIS:

H1- There is significant difference in the level of lower back pain in the experimental and the control group before and after providing lumbar support by pillow.

H2- There is a significant association between the post assessment level of lower back pain score and selected demographic variables in the experimental group.

CHAPTER II

REVIEW OF LITERATURE

The review of literature is the body of text that aims at reviewing critical points of knowledge on a particular topic of research. An extensive review of literature relevant to the research topic is done to gain insight and collect maximum information for providing strong foundations for the study.

2.1 Literary review related to the study

Section 1: Literature review related to back pain among the post caesarean section mothers.

Section 2: Literature review related to lumbar support to reduce back pain among non-pregnant state.

Section 3: Literature review related to lumbar support to reduce back pain among the post Caesarean section mothers.

SECTION 1: LITERATURE REVIEW RELATED TO BACK PAIN AMONG THE POST CAESAREAN SECTION MOTHERS.

Ajeet S, Nandkishore K (2013) conducted a study among 272 mothers cesarean section was unacceptably high and significantly higher. In that study one third of the mothers reported lumbar back pain. High caesarean birth rates present an issue of international public health concern. So 82 mothers suffered from back pain.

Kovacs FM, et al (2012) conducted a study on lower back pain which is related or unrelated to previous pregnancy and postpartum, pain augmenting with time spent in bed, and anxiety. Previously lumbar surgery was associated with a lower risk. The factors associated with a higher likelihood of reporting LP were reported LBP, lower academic level, young age, depression, a lower number of hours of sleep per day, and a higher BMI, and for PGP were higher score for depression, a higher body mass index and in term pregnancy.

Van Duijvenbode I, et al (2011) concluded that there is a conflicting evidence (two studies, 550 people) whether back supports are better than nothing in helping low-back pain patients return to work faster or not, however in three studies (410 patients), they were better than nothing in helping individuals with sub-acute and chroniclow-back pain recovery in functioning in short term.

Mogren IM, Eur Spine J(2007) studied about low back and pelvic pain (LBPP) which is prevalent during the post-partum.Forty percent of the respondents had received epidural anesthesia (EDA) or spinal anesthesia during delivery and 18.5% of women had delivered babies by Caesarean section . Epidural or spinal anesthesia was not associated with persistent low back pain. Low back and pelvic pain (LBPP) is prevalent during pregnancy and also post-partum. Elective caesarean section was associated with an increased risk of persistent low back pain.

Patel RR, et al (2007) told thatantenatal and postnatal back pain are common. Elective caesareansection does not protect against postnatal back pain. Neither emergency caesarean section nor vaginal deliveryincreases the risk of postnatal back pain compared with spontaneous delivery.

SECTION 2: LITERATURE REVIEW RELATED TO LUMBAR SUPPORT TO REDUCE BACK PAIN AMONG THE POST CAESAREAN SECTION MOTHERS

O'Sullivan K, et al (2013) demonstrated that lumbar repositioning error in sitting, healthy controls versus people with sitting-related non-specific chronic low back pain (flexion pattern).Studies examining repositioning error (RE) in non-specific chronic low back paindemonstrate contradictory results, with most studies not correlating deficits with measures of pain, disability or fear. This study examined if deficits exist among a subgroup of patients with whose symptoms are provoked by flexion, and how such deficits relate to measures of pain, disability, fear-avoidance and kinesiophobia. 15 patients were matched (age, gender, and body mass index) with 15 pain free participants. Lumbo-pelvic pain, functional disability, fear-avoidance and

kinesiophobia were evaluated. Participants were asked to reproduce a target position (neutral lumbo-pelvic posture) after slump sitting.

Grondin DE, et al (2013) foundseveral risk factors existing in the development of low back pain, including prolonged sitting and flexed spinal curvature. Several investigators have studied lumbar support devices and spinal curvatures in sitting, however few have investigated a pain population and reported a quantitative measure of comfort. The purpose of the current project is to determine whether a lumbarsupport pillow, outfitted with a cut-out to accommodate the bulk of posterior pelvic soft tissue volume, is more effective than a standard chair in promoting a neutral spinal posture and improving subjective and objective measures of comfort in healthy individuals and patients with low back pain.A lumbar support pillow with a cut-out for the posterior pelvic tissues improved an objective measure of comfort in healthy individuals and patients with low back pain.

Eur Spine J., et al (2011) conducted a prime research in Medline. Compared to the usual care, exercise therapy improved post-treatment pain intensity and disability, and long-term function, the objective of the present study is to determine the effectiveness of physical and rehabilitation interventions (i.e. exercise therapy, transcutaneous electrical nerve stimulation (TENS), low level laser therapy, education, massage, behavioral treatment, traction,multidisciplinary treatment,lumbar supports, and hot/cold therapy) for low back pain.

Ann Intern Med.Roelofs PD, et al(2007) conducted randomized, controlled trial among 360 home care workers with self-reported history of low back pain. Over 12 months, participants in the lumbar support group reported an average fewer days with low back pain than participants who received only the short course. However, the total sick days in the lumbar support group did not decrease. Small but statistically significant differences in pain intensity and function favored lumbar support.

Tulder MW van, et al (2005)presented a systematic review of therapeutic trial. It showed that there is a limited evidence that lumbar supports are more effective than

no treatment. One low quality trial which is compared with the effect of a lumbar support is of no intervention. In this study the pain index shows a significant effect in favor of the lumbar support group. There is a limited evidence that lumbar supports provide some pain relief in low back pain patients.

SECTION 3: LITERATURE REVIEW RELATED TO LUMBAR SUPPORT TO REDUCE BACK PAIN AMONG POST CAESAREAN ECTION MOTHERS

O'Sullivan K, et al (2012) decidedneutral sitting postures encouraging lumbar lordosis have been recommended in themanagement of sitting-related low back pain (LBP) among the caesarean section mothers.Lumbar multifidus activity was significantly lower on the back app chair (p=0.013).This study suggests that the lumbar multifidus activation requires to maintain a neutral sitting posture can be reduced by considering the type of support used with pillow. The ability to maintain aneutral lumbar posture with less lumbar multifidus activation is potentiallyadvantageous during prolonged sitting.

Aota Y, et al (2007)compared with no lumbar support, a significant improvement in visual analogue scale scoresfor low back pain, stiffness, and fatigue was obtained with lumbar support in post caesarean section mothers ($P < 0.005$). A significant ($P < 0.005$)improvement for buttock numbness was obtained only with lumbar support. There were statistical differences in all VAS scores lumbar support.

Makhsous M, Lin F, Hendrix RW, et al (2003) conducted a study which proved that the ischial support was relieved, the center of the force on the seat and on the legs of the chair, and the peak center of pressure on the seat, were significantly ($P < 0.002$) shifted forward towards the thighs. The total contact area on the seat pan and on the backrest was significantly decreased and increased, respectively ($P < 0.001$). The sacral inclination, total and segmental lumbar lordosis, and lumbar spine disc height were significantly increased for sitting upright with backrest, with the lumbar curve close to that during the standing posture.

Lindeka Mangesi, et al (2002) conducted a study which showed how to position mothers themselves properly while nursing, and always bring their babies to their breast rather than the other way around. Also it suggested a different breastfeeding positions. If the mothers have tense shoulders and upper back pain, the side-lying position, It may be most comfortable. lumbar support also was one of the measures which prevented mothers from developing lower back pain.

Derman KL, Derman EW, Noakes TD (1995) conducted the study on patients when lying on the low back support after either acute or chronic exposure. It was significantly greater ($P < 0.05$) in patients than in when lying on the flat mattress. Subjective ratings of discomfort and heart rates mirrored these changes and were higher in patients only when lying on the flat mattress ($P < 0.05$). Patients with low back pain also reported that sleeping overnight on the low back support on top of their own mattress significantly reduced discomfort ratings.

Majeske C, Buchanan C (1984) investigated on changes in angular position of the forearm, upper arm,pelvis, trunk, neck, and head during relaxed sitting with and without a lumbar support pillow. Data markers were placed on specified anatomical sites of 19healthy women who underwent lower abdominal surgery. Using a protractor, we measured segment angles with respect to the horizontal on all photographs. Use of the lumbar support pillow during relaxed sitting showed a significant difference (p less than or equal to 0.05) in the segment angles of forearm, upper arm, pelvis, and trunk. The use of a lumbar support pillow to change the sitting posture is supported.

2.2 CONCEPTUAL FRAMEWORK

A group of concepts are broadly defined and systematically organized to provide a focus, a rationale, and a tool for the integration and interpretation of information. Usually expressed abstractly through word models, a conceptual framework is the conceptual basis for many theories, such as communication theory and general systems theory. Conceptual frameworks also provide a foundation and organization for the educational plan in schools of nursing.
(Mosby's medical dictionary, 8th edition. © 2009, Elsevier.)

General system theory model

Systems theory may be considered as a specialization of systems thinking and a generalization of systems' science. First proposed by Ludwig Von Bertalanffy (1901-1972) as General Systems theory.General systems theory is a general science of 'wholeness'. Systems theory has been applied in developing nursing theories and conducting nursing research.

As a biologist Von Bertalanffy knew that such an assumption is simply impossible for most practical phenomena. Organisms are open systems: they cannot survive without continuously exchanging matter and energy with their environment. The peculiarity of the open systems is that they interact with other systems outside of themselves. This interaction has two components: input, that what enters the system from the outside and output, that what leaves the system forthe environment.

Input:

Input is something put into a system or expended in its operation to achieve output or a result.

In this study input refers to the selected demographic variables(age, education, occupation, type of family andsupport system), Obstetrical variables (indication for caesarean section, BMI of the mother and anaesthesia) and pre-assessment level of lower back pain.

Throughput:

Throughput is a process that converts the input into a final product or outcome. This study plans for intervention of providing lumbar support with pillow to reduce lower back pain which is the through put.

Output:

An output is the final product or service provided by a system.Adaptive responses promotion of comfort, pain reduction, improved physical activity. In this study there isa greater pain reduction in the experimental group.

The investigator embraced the General system model as the key for the current study which focuses to identify the effectiveness of lumbar support to reduce lower back pain. The model represents the effectiveness of lumbar support and the relationship between the demographic variables. This model explains the concept of the research work in these three components.

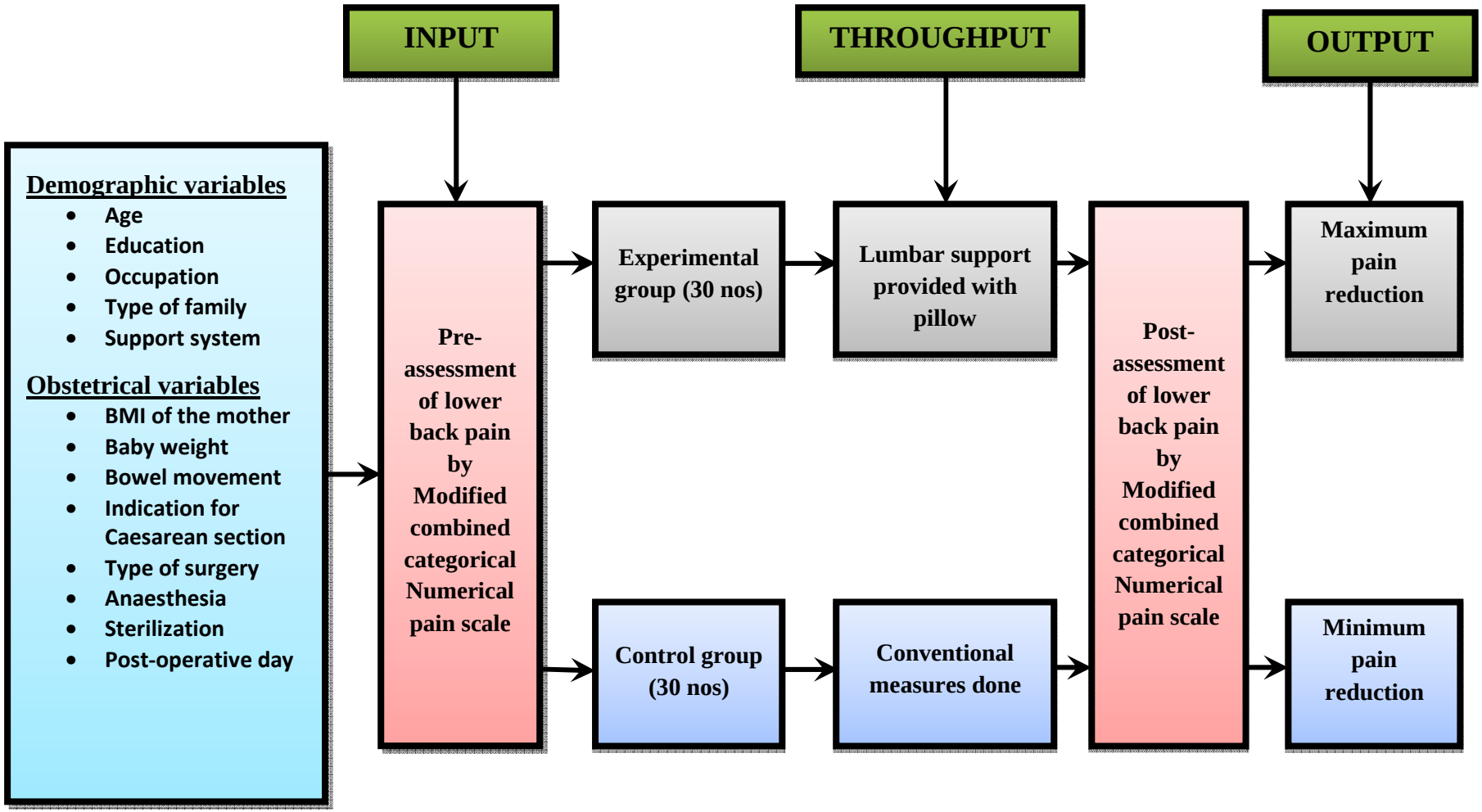


FIGURE 2.2.1 CONCEPTUAL FRAMEWORK-MODIFIED GENERAL SYSTEM THEORY

CHAPTER III

RESEARCH METHODOLOGY

Research design is used interchangeably with the term methodology. Research design is also known as a blueprint that researches select to carry out their research study. Research design can also be defined as a blueprint to conduct the study, which involves the description of research approach, study setting, sampling size, sampling technique, tools and method of data collection and analysis to answer the specific research questions or for testing research hypotheses.

- Dr. S. K. Sharma

3.1 RESEARCH APPROACH:

The research approach chosen for this study is evaluative quantitative approach.

3.2 RESEARCH DESIGN:

The research design used in this study is a true experimental study design.

Experimental group ------- Lumbar support with pillow.

Control group ------- Provision of routine post caesarean section care.

RE →01----X1----X2----02----X3----03

RC →01----------02----------03

RE –Randomized Experimental group

RC – Randomized Control group

01-- Pre-assessment on the 1st day

X1 – Lumbar support with pillow on the 1st day

X2-- Lumbar support with pillow on the 2nd day

02—Post-assessment on end of 2nd day

X3-- Lumbar support with pillow on the 3rd day

03—Post-assessment on end of 3rd day

3.3 VARIABLES

Independent variables: Lumbar support with pillow is an independent variable in this study.

Dependent variable: Lower back pain which is reduced by the lumbar support is the dependent variable.

3.4 STUDY SETTING:

This study has been conducted in two different post caesarean section wards at the Institute of Obstetrics and Gynaecology, Chennai-08. It is run by the government and one of the biggest teaching and research institutions for midwifery in Asia. It has been rendering meritorious service for the past 169 years. This institution has 752 beds as well as reputed maternity hospital and tertiary referral Centre. Every day from 16 to 18 caesarean surgeries are treated here.

3.5 POPULATION:

The target population for this study is the primi mothers who have undergone caesarean section and admitted in the post caesarean section ward at the Institute of Obstetrics and Gynaecology, Chennai.

3.6 SAMPLE:

Sample is the subset of population. In this study, post caesarean section women who fulfill the inclusion criteria are the samples.

3.7 SAMPLE SIZE:

Sample size for the study has been fixed as sixty.

Experimental group-30 post caesarean section mothers.

Control Group-30 post caesarean section mothers.

3.8 SAMPLING TECHNIQUE:

Among the post caesarean section mothers, 4 to 5 mothers a day who meet the inclusion criteria are chosen as samples. Samples are selected by simplerandom sampling technique using the lottery method.

3.9 CRITERIA FOR SAMPLE SELECTION:

Inclusion criteria

1. Women who are willing and given consent in written have participated in this study.
2. Women who have undergone lower segment caesarean section through transverse incision in the lower abdomen.
3. Primi gravida mothers.
4. Women who are within 3 to 7 postoperative days.

Exclusion criteria

1. Women having maternal complications such as Gestational Diabetes Mellitus and Pregnancy Induced Hypertension.
2. Women having lower back pain due to orthopedic pathology.
3. Women who have undergone lower segment caesarean section through vertical para median incision in the lower abdomen.

3.10 DEVELOPMENT AND DESCRIPTION OF THE TOOL:

The instrument has been developed by the investigator after an extensive refining work with the help of the review of related literature and expertsopinion.

Structured interview schedule has been used to collect the demographic data and obstetrical data. Modified combined categorical numerical pain scale has been applied to measure the lower back pain.

Part I	: Demographic data (age, education, occupation, family and social support at home).
Part II	: Obstetrical data (BMI of the mother, baby weight, bowel movement, indication for caesarean section, type of caesarean section, anesthesia, sterilization and postoperative day).
Part III	: Modified combined categorical numerical pain scale.

3.11 ETHICAL CONSIDERARTIONS:

The investigator has presented the research proposal to the institutional ethical committee at Madras Medical College and got approval to conduct the study.

3.12 TESTING OF THE TOOL:

After construction of questionnaire for the study titled“A study to assess the effectiveness of lumber support in reducing lower back pain among women who have undergone caesarean section at IOG, Chennai-08”, it has been tested for its validity and reliability of the study.

3.12.1 CONTENT VALIDITY:

Validity of the tool was determined by experts form Medical discipline. The suggestions have been given in the modification of tools. Having done the modifications they agreed this tool for assessingthe effectiveness of lumber support in reducing lower back pain among women undergone caesarean section at IOG, Chennai-08.

3.12.2 PILOT STUDY:

It is the rehearsal of the main study.The researcher obtained formal permission from the Head of the Department in Obstetrics and Gynaecological Nursing and Director of Institute of Obstetrics and Gynaecology, Egmore, Chennai-08.The study was

conducted at the Institute of Obstetrics and Gynaecology in the post-caesarean section wards. By the simple random sampling technique,six samples were selected. Pre assessment level of lower back pain was done by using modified combined categorical numerical pain scale. For the experimental group lumbar support with pillow had beenprovided for 3days and for control group routine care was followed.Then the post-assessment was done by the same modified combined categorical numerical pain scale for both the experimental and control group.The experimental group showed the significant reduction in lower back pain. The study showed the feasibility to conduct the proposed study as planned. The participants of pilot study are not included in the main study.

3.12.3 RELIABILITY:

After content validity, reliability of the tool was assessed by using test inter-rater method and its correlation coefficient r –value is 0.87. This correlation coefficient is very high and it is one of the best tools for assessing the effectiveness of lumbar support in reducing lower back pain among women who have undergone caesarean section at IOG, Chennai-08.

3.13 DATA COLLECTION PROCEDURE:

Aformal permission from authorities concerned was obtained after the samples were identified by survey as per inclusion and exclusion criteria. Mothers who had willingness and consented in written have been chosen as samples. As described in the sample selection procedure, simple random sampling technique has been employed to select the samples in the postoperative caesarean section ward. A brief introduction was given to the women from whom data were collected and assured that the data would be kept confidential.

Pre-assessment

1) Sixty women who have undergone caesarean section are selected as samples and divided into two groups named the experimental and the control group respectively.

2) Demographic variables, obstetrical variables and lower back pain using Modified combined categorical numerical pain scale are assessed.

Intervention

3) After the assessment, the experimental group mothers have been provided with flexible and firm pillow made up of fabrics kept at the lumbar region horizontally. Lumbar support has been provided in the morning, afternoon and evening for about 15 to 20 minutes, whenever the mother sat up and fed the baby. Mothers have been assessed for 3 days, i.e. from three to seven post-operative days.

4) Mean while the control group mothers have been equipped with conventional nursing measures.

Post-assessment

5) Both the experimental and the control group mothers have been assessed for lower back pain using the same Modified combined categorical numerical pain scale on the end of the second day and third day.

6) Average time taken to assess a mother was 10 to 15 minutes.

3.14 PLANS FOR DATA ANALYSIS:

Descriptive statistical methods like mean and standard deviation have been employed to analyze the demographic data. Inferential statistical methods like Student ‘t’ test and Chi square test have been adopted.

Figure 3.1 Schematic Representation of Research Methodology

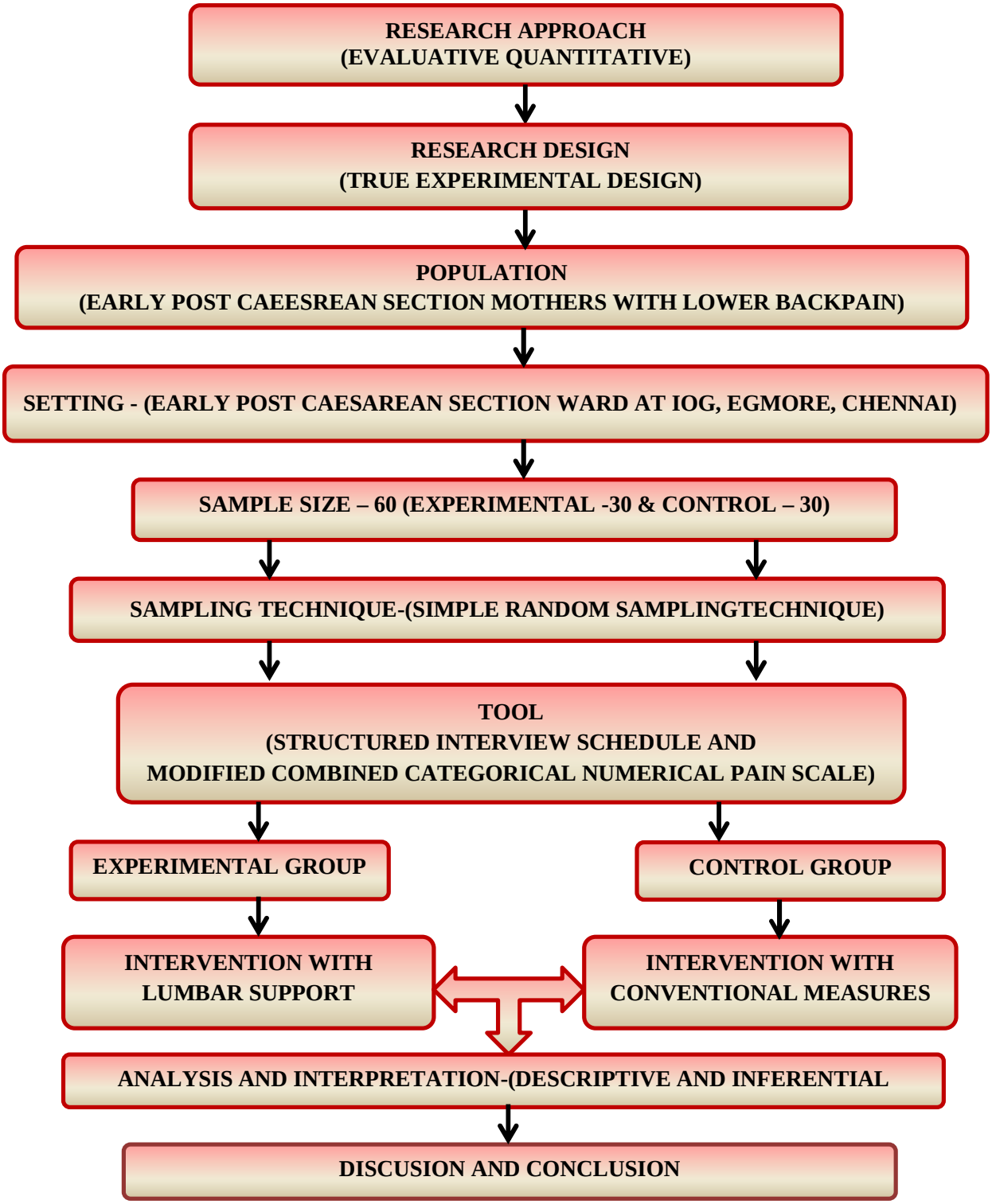


FIGURE 3.1 RESEARCH DESIGN

TOOL

A. DEMOGRAPHIC VARIABLES

1. Age

a) <21 years ☐

b) 21-35 years ☐

c) 36-40 years ☐

d) 41-45 years ☐

2. Educational status

a) Non-formal education ☐

b) Primary education ☐

c) Secondary education ☐

d) Diploma or Degree ☐

3. Occupation

a)Professional education ☐

b) Private ☐

c) Coolie ☐

d) Housewife ☐

4. Type of family

a) Nuclear family ☐

b) Joint family ☐

c) Extended family ☐

5. Social support

a) Husband ☐

b) Mother ☐

c) Sister ☐

d) Mother in law ☐

B) OBSTETRICALDATA

1. BMI of the mother

a) <18.5Kg/m² ☐

b) 18.5-23 Kg/m² ☐

c) 23.1-25 Kg/m² ☐

d) >25 Kg/m² ☐

2.Baby weight

a) 2.5 - 3.0 Kg ☐

b) 3.1 – 3.5 Kg ☐

3. Bowel movement

a) Flatusnot passed ☐

b) Flatus passed ☐

4. Indication for caesarean section

a) Cephalo-pelvic disproportion ☐

b) Meconium stained liquor ☐

c) Mal presentation ☐

d) Obstructed labour ☐

5. Types of surgery

a) Elective ☐

b) Emergency ☐

6. Caesarean section performed under

a) Generalanaesthesia ☐

b) Spinal anaesthesia ☐

7. Whether sterilization done along with caesarean section

a) Yes ☐

b) No ☐

8. Postoperative day

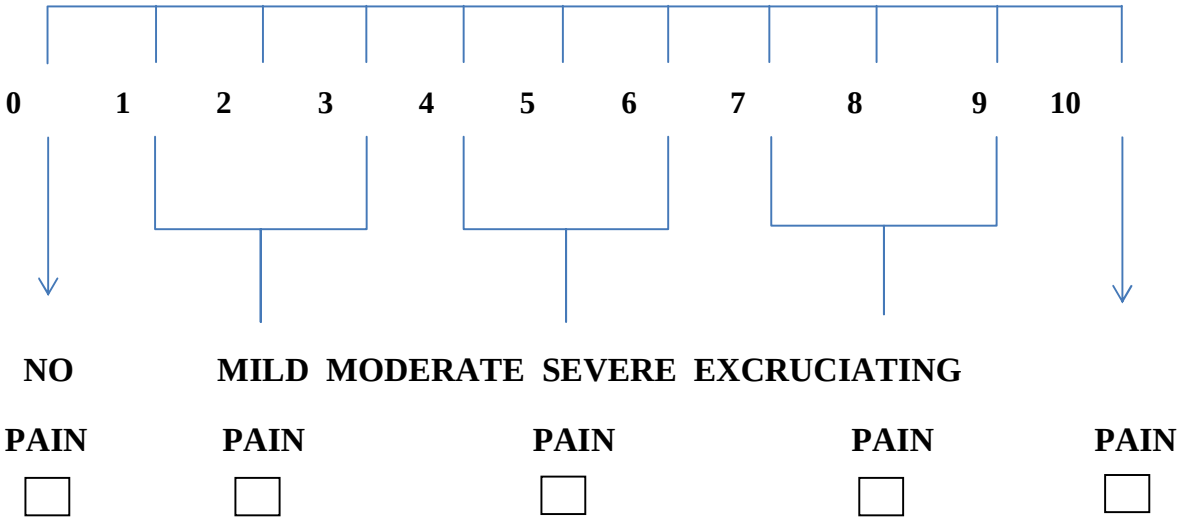
a) 3 ☐

b) 4 ☐

c) 5 ☐

d) 6 ☐

MODIFIEDCOMBINEDCATEGORICALNUMERICALPAINSCALE



CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Dr. Suresh K. Sharma (2011) defines analysis and interpretation of data as the most important phase of the research process which involves the computation of the certain measures along with searching for patterns of relationship that exists among data groups.

Analysis is the process of organizing and synthesizing the data to answer the research questions and test the hypothesis. It is also defined as the process of systematically applying statistical and logical techniques to describe, summarize and compare the data.

The data collected from 60 samples have been documented, analyzed and tabulated by using the descriptive and inferential statistics by the tables and diagrams. Interpretation proceeds as follow as:

Section A: Description of demographic variables of women who have undergone Caesarean section.

Section B: Pre-assessment of lower back pain.

Part I: Pre-assessment of lower back pain among experimental group.

Part II: Pre-assessment of lower back pain among control group.

Section C: Post-assessment of lower back pain.

Part I: Post-assessment of lower back pain among experimental group.

Part II: Post-assessment of lower back pain among control group.

Section D: Comparison of pre and post-assessment of lower back pain.

Section E: Effectiveness of lumbar support by comparing the pre and post-assessment of lower back pain.

Section F: Association of effectiveness of lumbar support with demographic and obstetrical variables of the women with lower back pain.

STATISTICAL ANALYSIS

- Demographic variables of categorical were given in frequencies of their percentages.
- Pain score have been exercised by mean and standard deviation.
- Differences between experimental and control group were examined by using the Chi square test.
- Pre and post-assessment differences were analyzed by the Chi- square test.
- Association between level of pain reduction and demographic variables were calculated by employing the Chi square test.
- Differences between experimental and control group score was investigated by using mean difference of 95% Confidence Interval and proportion of 95% confidence interval.
- Simple bar diagram, multiple bar diagram and pie diagram were applied to represent the data.
- $P<0.05$ is considered as a statistical significant.

Section A

Table 4.1DEMOGRAPHIC PROFILE

Demographic variables		Group			
		Experimental		Control	
		n	%	n	%
Age	<21years	0	0%	0	0%
	21-35years	24	80%	26	86.7%
	36-40years	6	20%	4	13.3%
	>40years	0	0%	0	0%
Education status	Primary	11	36.7%	12	40.0%
	Secondary	17	56.7%	17	56.7%
	Diploma or Degree	2	6.6%	1	3.3%
Occupation	Private	4	13.3%	4	13.3%
	Coolie	4	13.3%	5	16.7%
	Housewife	22	73.4%	21	70.0%
Type of family	Nuclear family	13	43.3%	11	36.7%
	Joint family	17	56.7%	19	63.3%
Social support	Husband	5	16.7%	7	23.3%
	Mother	21	70.0%	20	66.7%
	Mother-in-law	4	13.3%	3	10.0%

Table 4.1 shows the demographic information of women those who have participated in the current study. Among them 80% (experimental) and 86.7% (control) of the women belong to the age group of 21-35 years, 56.7% (both experimental and control) of the women are educated with higher secondary level and 73.4% (experimental) and 70% (control) of the women are housewives.

FIGURE 4.1 DISTRIBUTIONS OF WOMEN ACCORDING TO THEIR AGE.

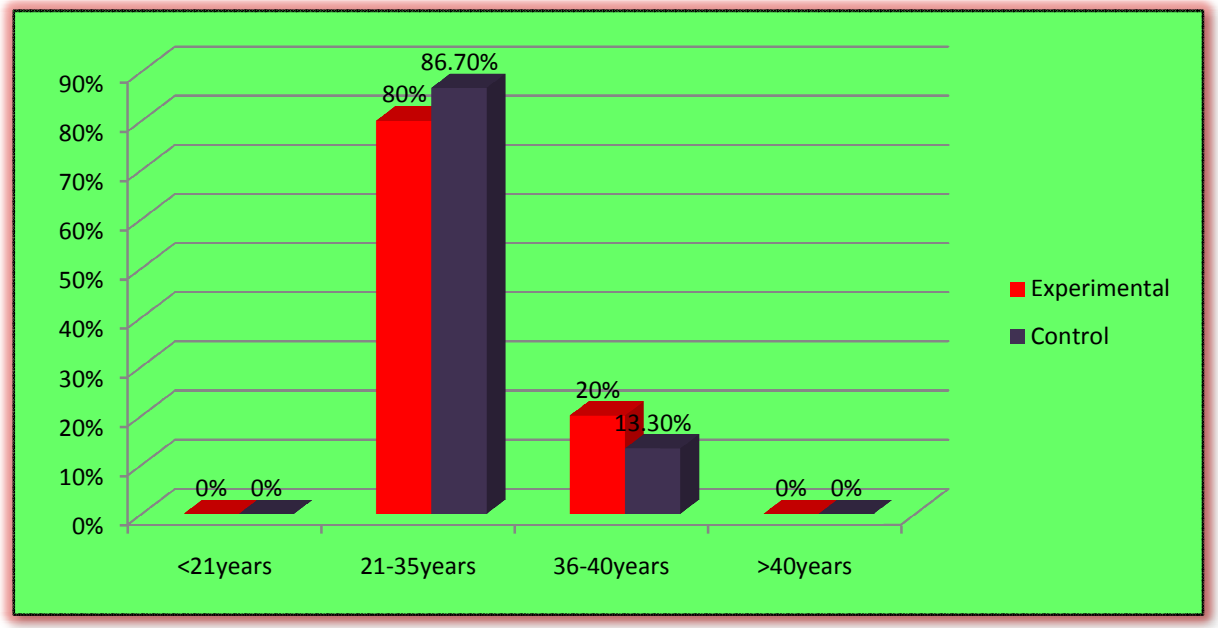


Figure 4.1 shows that 80% (experimental) and 86.7% (control) of the women belong to the age group of 21-35 years.

FIGURE 4.2 DISTRIBUTIONS OF WOMEN ACCORDING TO THEIR EDUCATION STATUS

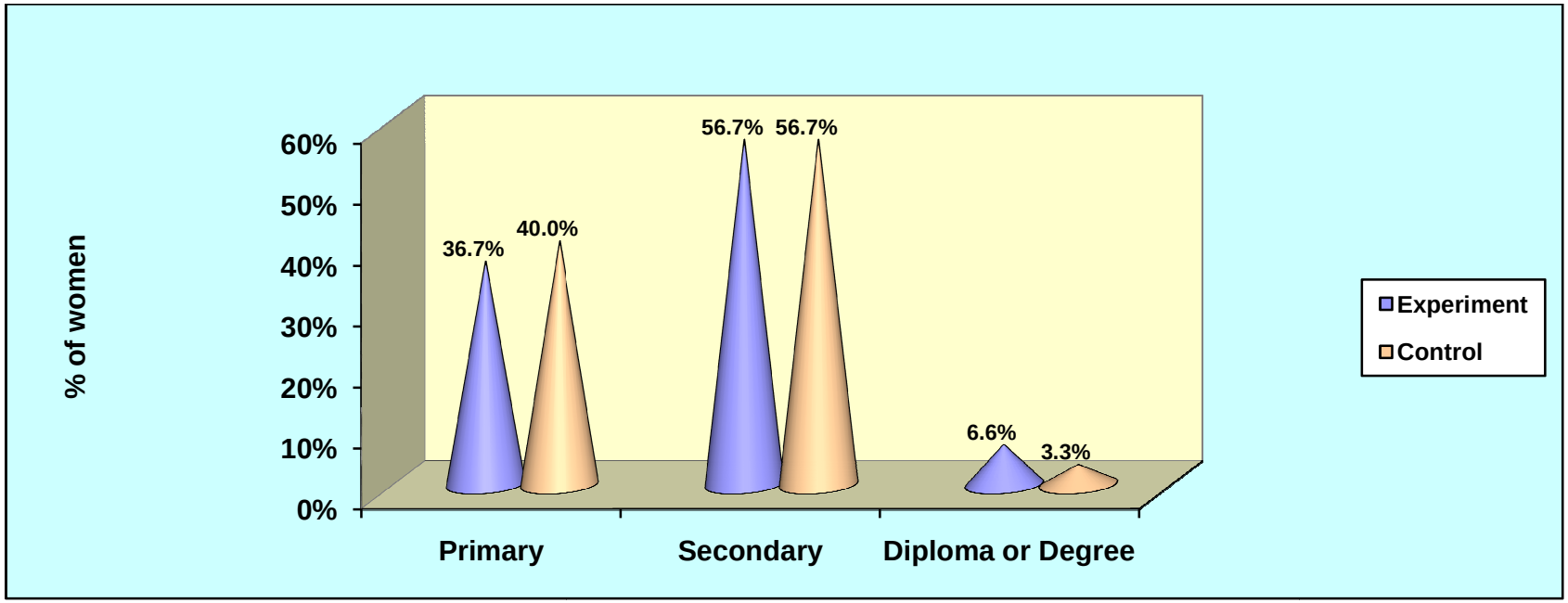


Figure 4.2 depicts that 56.7% of the women have been studied up to the secondary level of education.

FIGURE 4.3 DISTRIBUTIONS OF WOMEN ACCORDING TO THEIR OCCUPATION.

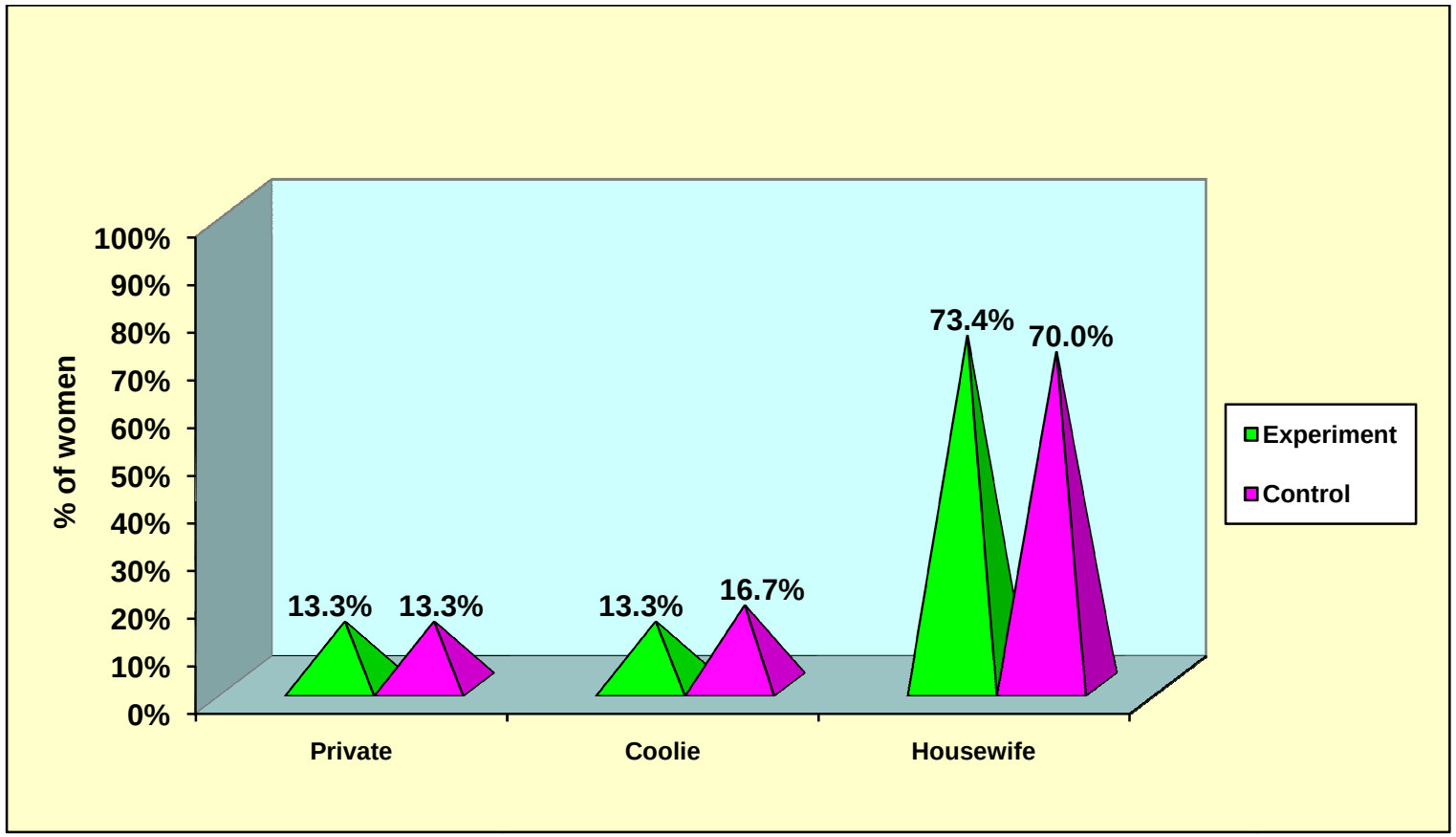


Figure 4.3 indicates that 73.4% (experimental) and 70% (control) of the women are housewives.

FIGURE 4.4 DISTRIBUTIONS OF WOMEN ACCORDING TO THEIR FAMILY TYPE.

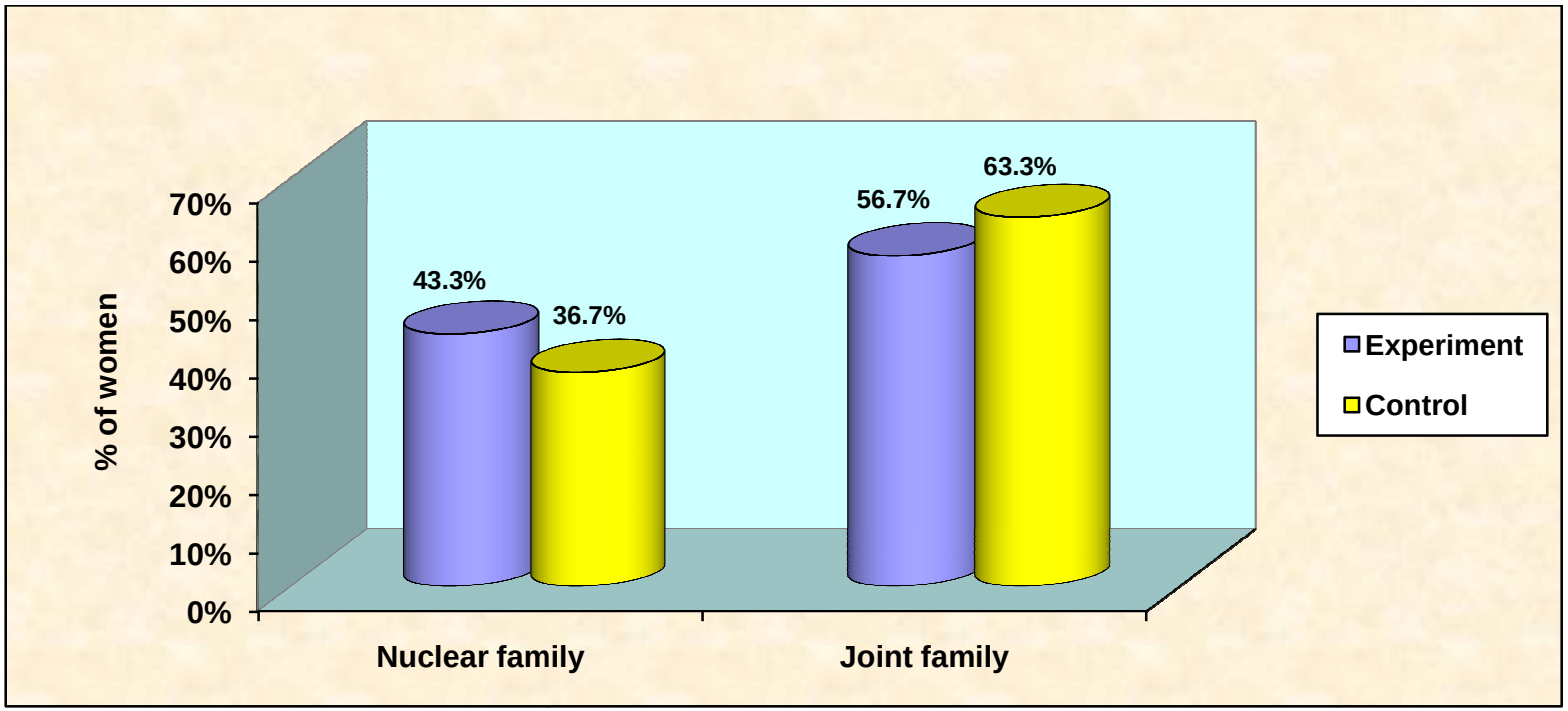


Figure 4.4 explains that most of the women belong to joint family both in experimental (56.7%) and control (63.3%) group.

FIGURE 4.5 SOCIAL SUPPORT FORWOMEN.

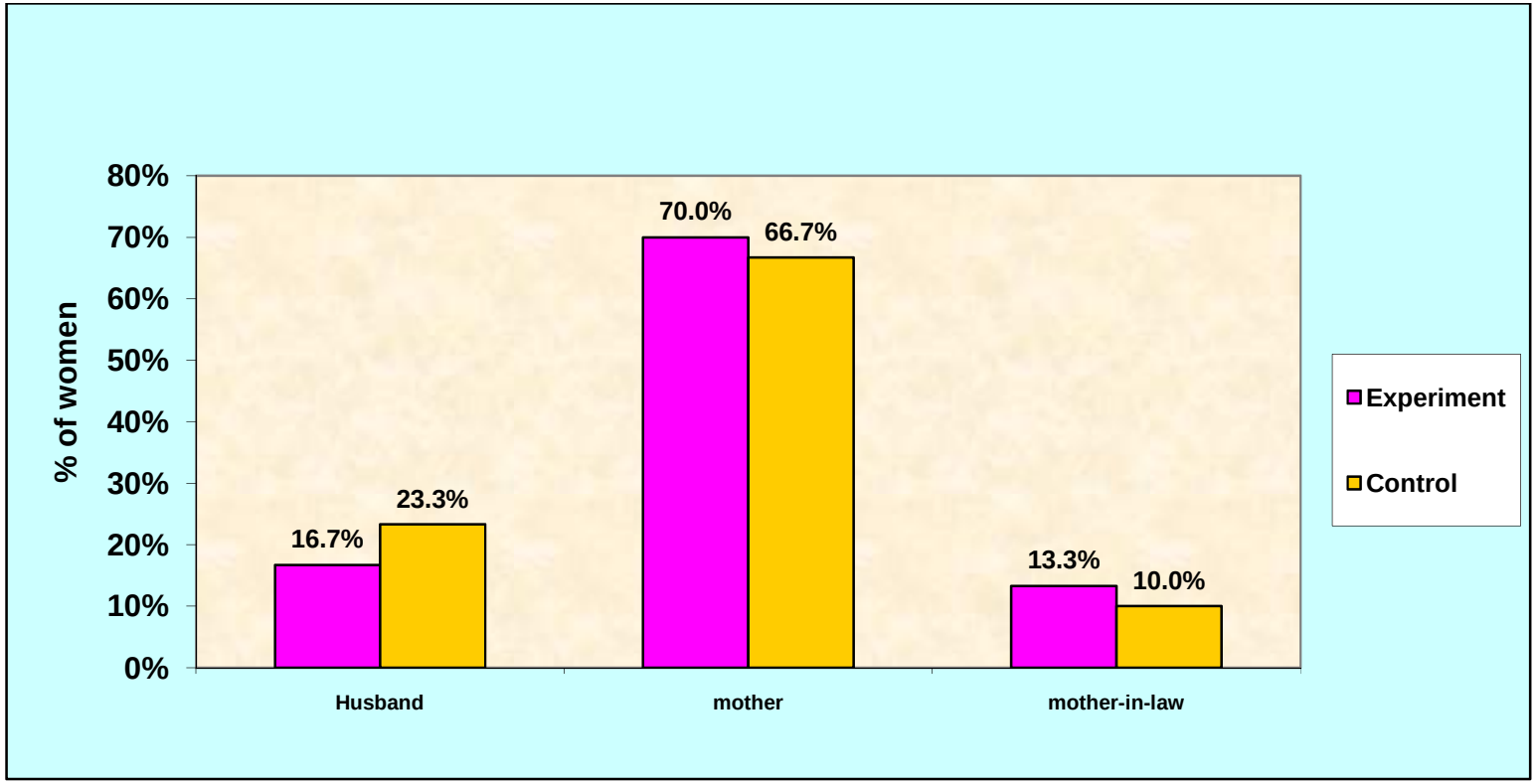


Figure 4.5 shows that most of the women are supported by their women in both experimental (70%) and control (66.7%)

TABLE 4.2 OBSTETRIC PROFILE

Obstetric data		Group			
		Experimental		Control	
		n	%	n	%
BMI of the mother (Kg/m²)	<18.5	0	0%	0	0%
	18.5-23	24	80%	26	86.7%
	23.1-25	6	20%	4	13.3%
	>25	0	0%	0	0%
Baby weight	2.5 - 3.0 Kg	25	**83.3%**	23	**76.7%**
	3.1 - 3.5 Kg	5	16.7%	7	23.3%
Bowel movement	Flatus not passed	1	3.3%	1	3.3%
	Flatus passed	29	**96.7%**	29	**96.7%**
Indication for LSCS	Cephalo-pelvic disproportion	5	16.7%	7	23.3%
	Meconium stainedliquor	22	**73.3%**	21	**70.0%**
	Malpresentation	3	10.0%	2	6.7%
Type of surgery	Elective	3	10.0%	4	13.3%
	Emergency	27	**90.0%**	26	**86.7%**
Anaesthesia	Spinal anaesthesia	30	100.0%	30	100.0%
Sterilization done	No	30	100.0%	30	100.0%
Post operative day	3 days	15	**50.0%**	22	**73.3%**
	4 days	10	33.3%	8	26.7%
	5 days	5	16.7%	0	0.0%

Table 4.2 shows the obstetrical history of women's participation in this study. Broadly, 80% (experimental) and 76.7% (control) of the women BMI fall between 18.5-23 weight in Kg /height in m²., also, 83.3% (experimental) and 76.7% (control) of women have delivered the babies weighed the range between 2.5- 3.0 kg. Most of the women don't have problem in passing flatus in both experimental and control group (96.7%). 73.3% (experimental) and 70% (control) of women have been instructed to undergo caesarean section because of meconium stained liquor (fetal distress). Women who have undergone

caesarean section for the emergency condition are 90% from experimental and 86.7% from control group. 50% (experimental) and 73.3% (control) of the women have been confiscated for this study on their third post-operative day and rest of the women have been chosen from the fourth post-operative day onwards.

FIGURE 4.6 DISTRIBUTION OF BMI

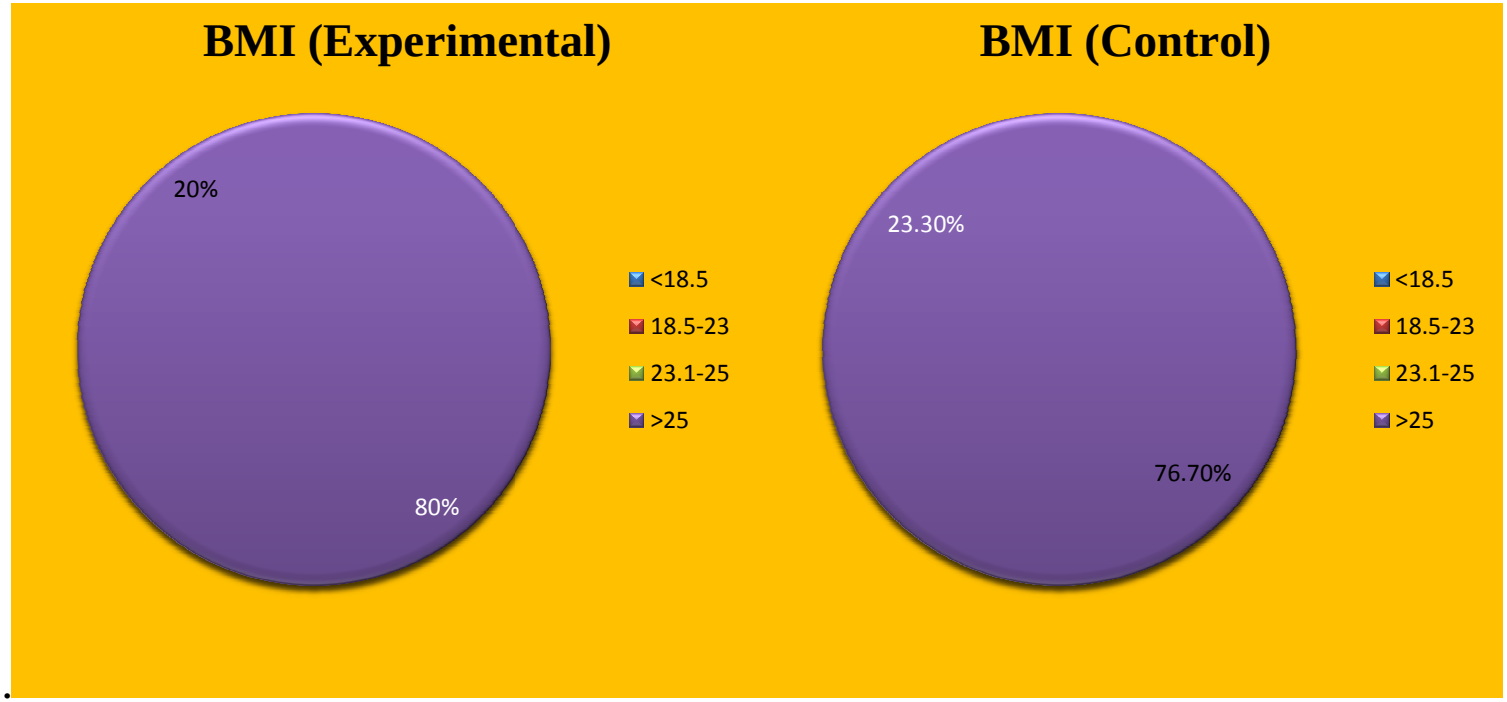


Figure 4.6 depicts that 80% (experimental) and 76.7% (control) of the women BMI fall between 18.5-25 Kg/m².

FIGURE 4.7 DISTRIBUTION OF BABY WEIGHT.

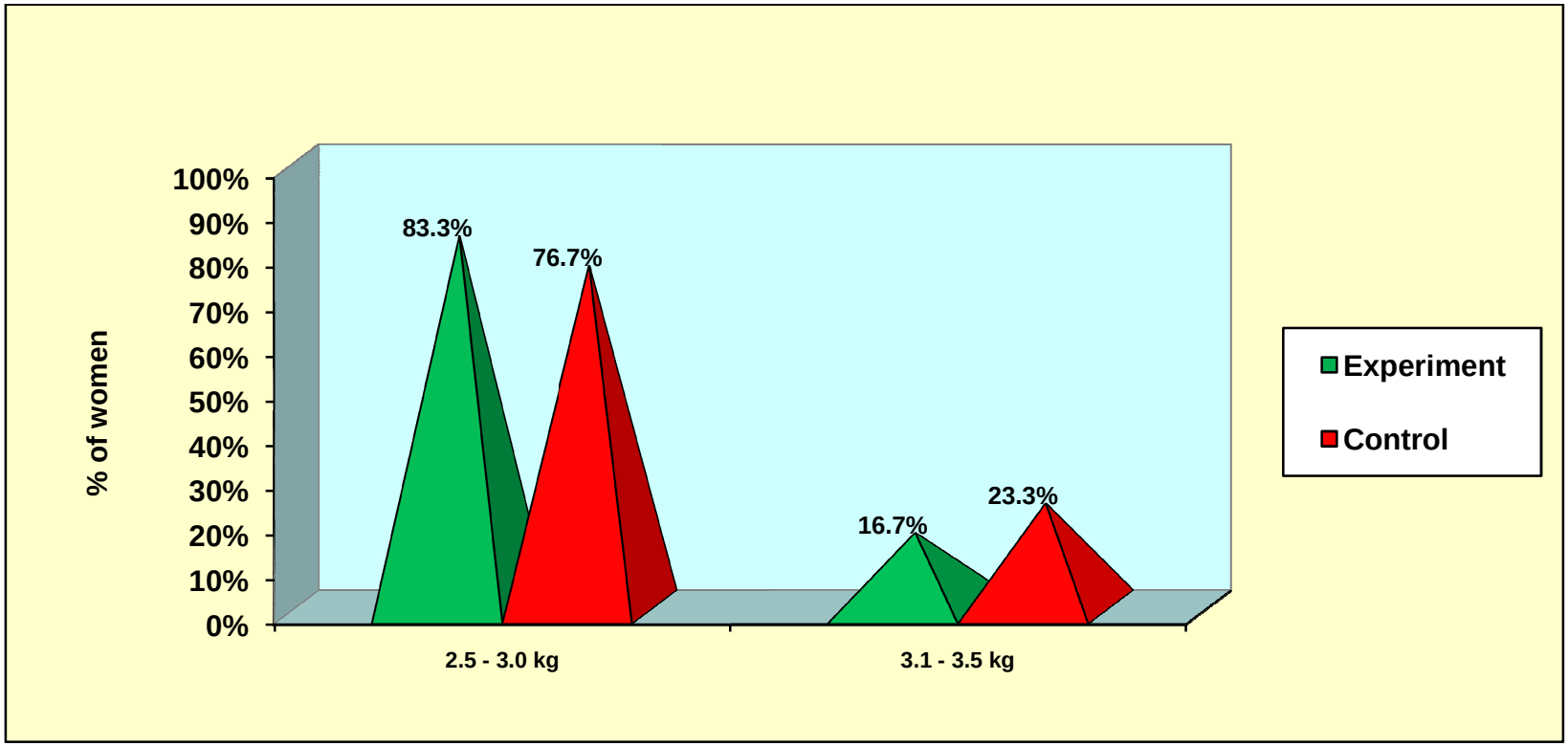


Figure 4.7 shows that 83.3% (experimental) and 76.7% (control) of women deliver the babies weighed the ranging between 2.5- 3.0 kg.

FIGURE 4.8 INDICATIONS FOR CAESAREAN SECTION.

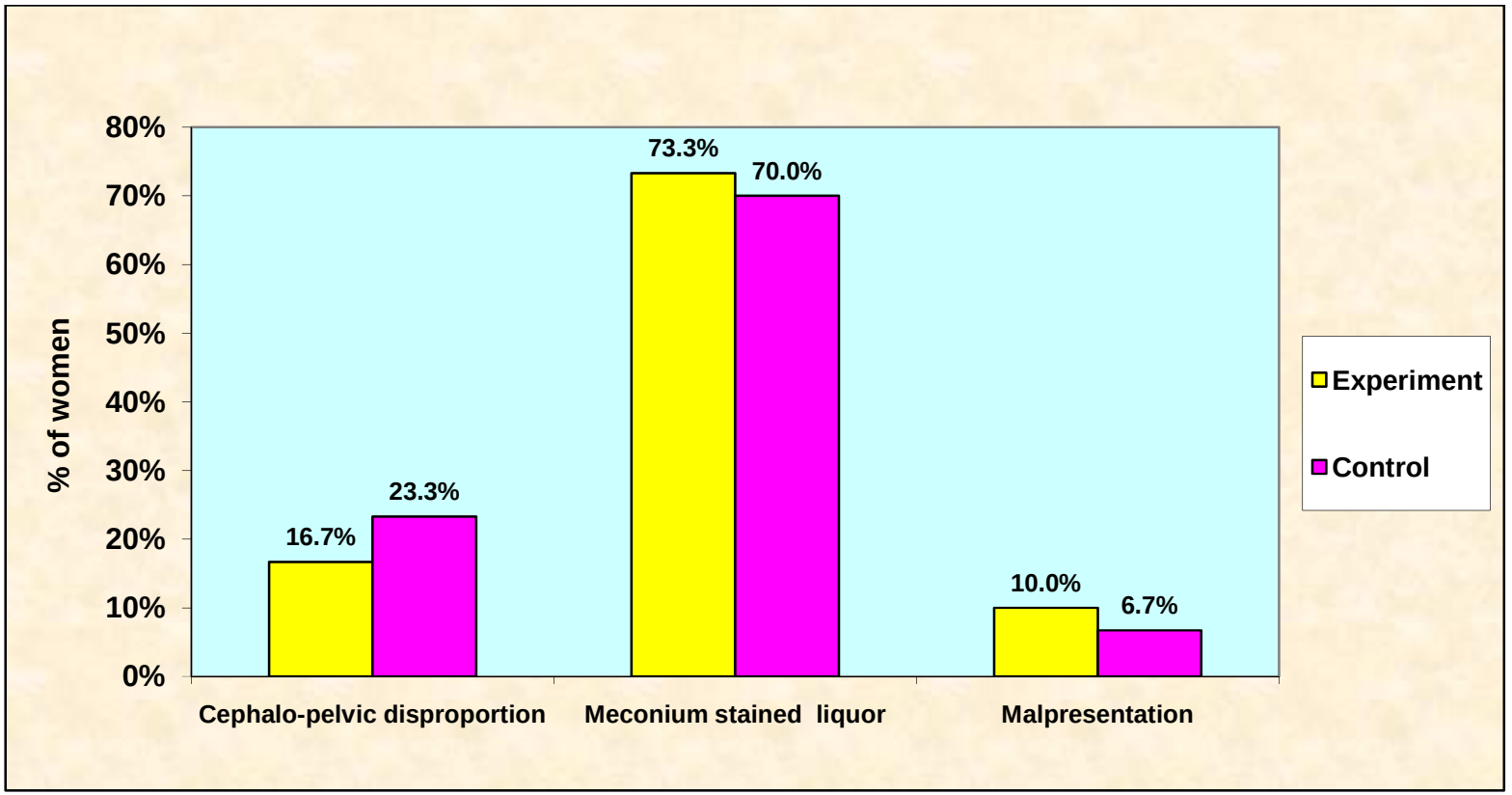


Figure 4. 8 states that 73.3% (experimental) and 70% (control) of women have been indicated to undergo caesarean section for meconium stained liquor (fetal distress).

FIGURE 4.9 POST-OPERATIVE DAY.

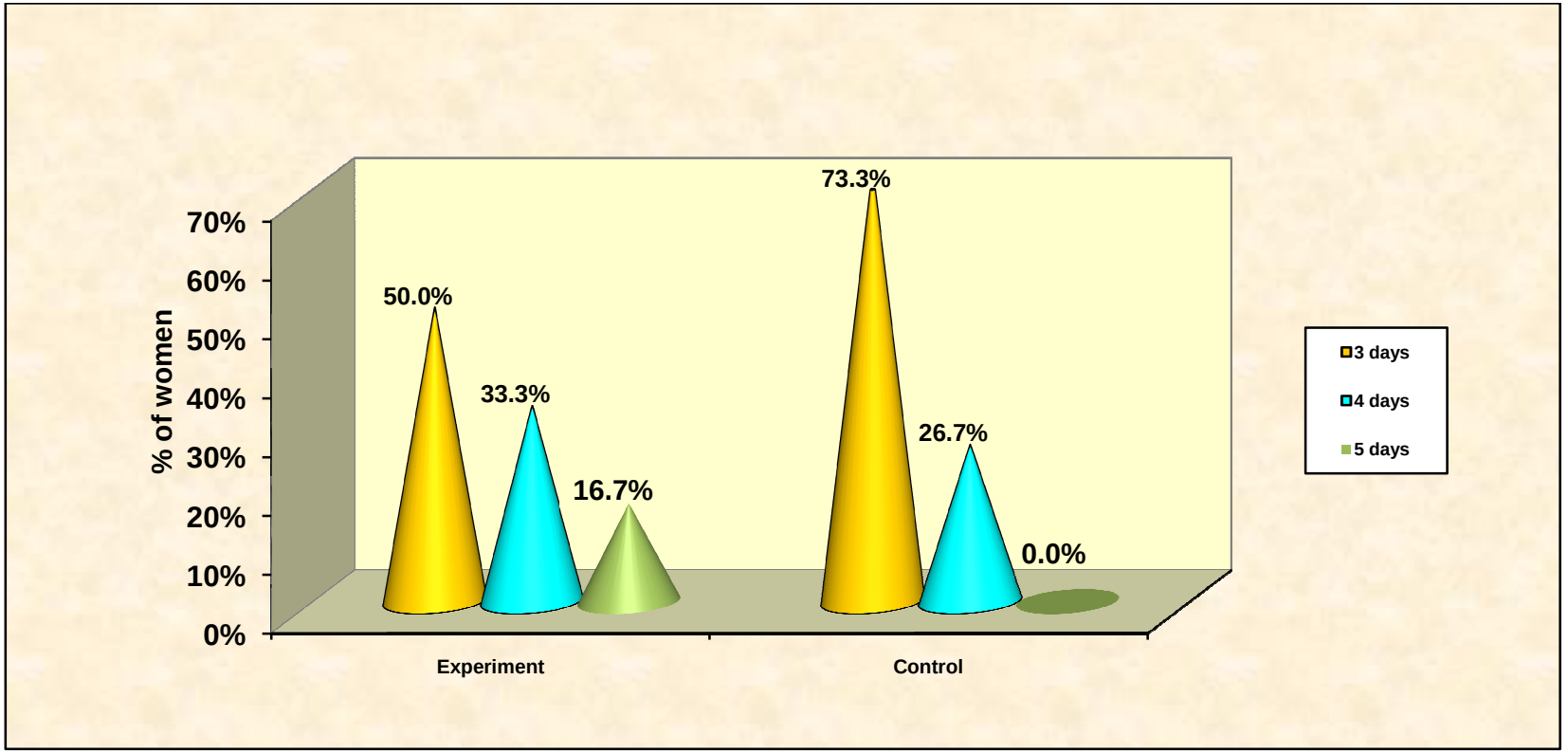


Figure 4.9 explains that 50% (experimental) and 73.3% (control) of the womenhave been confiscated on their third post-operative day and rest of themhave been chosen from the fourth post-operative day onwards.

SECTION B

Objective 1: To assess the pre-assessment level of lower back pain among the post caesarean section women in both experimental and control group.

Table 4.3 Pre-assessment level of lower back pain between experimental and control group

	Level of pain	Experimental group		Control Group	
		N	%	N	%
Pre-assessment (Day1)	No pain	**0**	**0.0%**	**0**	**0.0%**
	Mild pain	**0**	**0.0%**	**0**	**0.0%**
	Moderate pain	**10**	**33.3%**	**12**	**40.0%**
	Severe pain	**20**	**66.7%**	**18**	**60.0%**
	Excruciating pain	**0**	**0.0%**	**0**	**0.0%**
	Total	**30**	**100%**	**30**	**100%**

The above table vividlyexpresses pre-assessment level of lower back pain among the post caesarean section women in both experimental and control group. In experimental group, 33.3% of the women have moderate level of pain, 66.7% face severe pain. In thecontrol group, 40.0% of the women feel moderate pain, 60% of them suffer from severe pain.This difference is large. It is a statistical significant in difference.

FIGURE 4.10 PRE-ASSESSMENT LEVEL OF LOWER BACK PAIN BETWEEN EXPERIMENTAL AND CONTROL GROUP

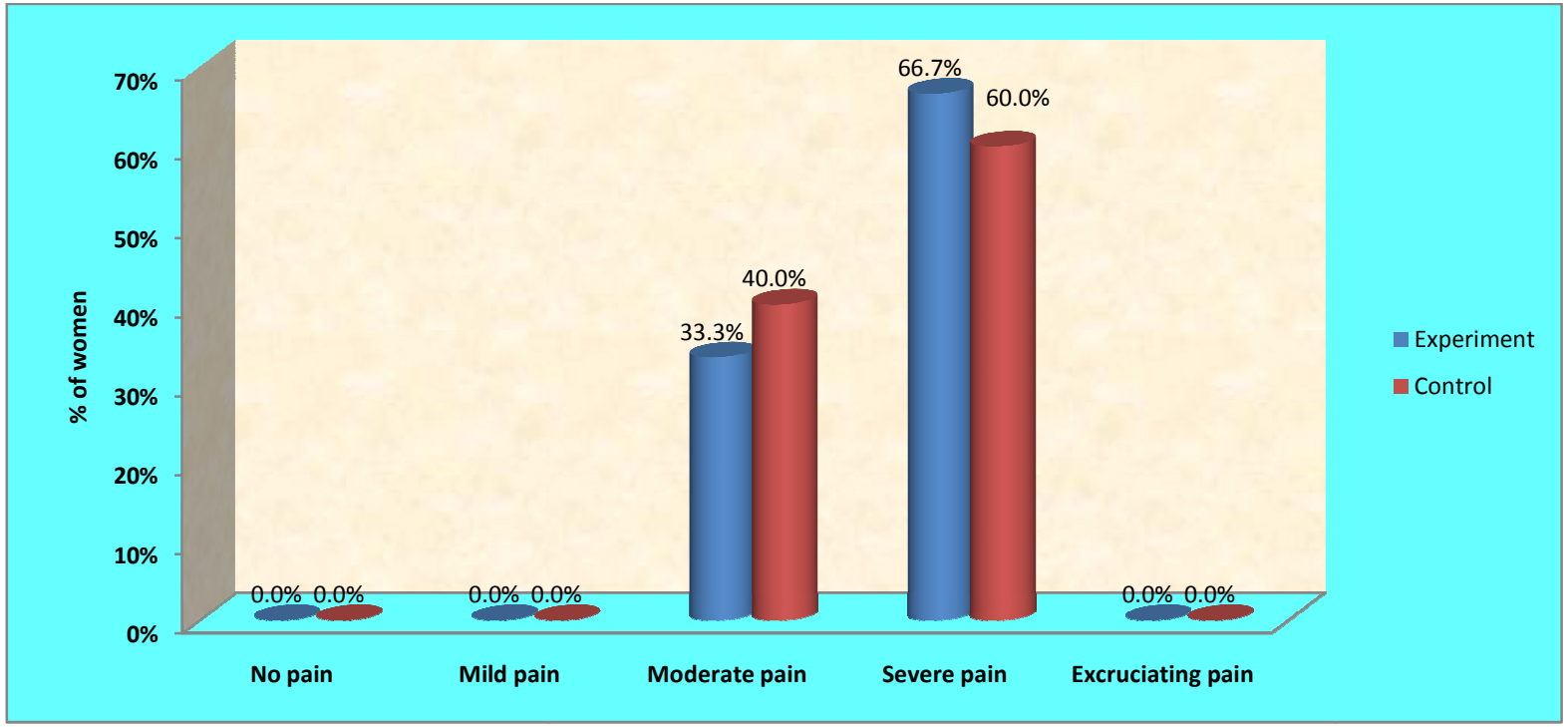


Figure 4.10 shows the pre-assessment pain level in both theexperimental and the control group.

Objective 2: To assess the post-assessment level of lower back pain among the post caesarean section women in the experimental group after providing lumbar support with pillow.

SECTION C

TABLE 4.4 POST-ASSESSMENT LEVEL OF LOWER BACK PAIN IN THE EXPERIMENTAL GROUP

Group	**Level ofpain**	**Post-assessment (Day2)**		**Post-assessment (Day3)**		**Chi square test**
		n	**%**	**n**	**%**	
Experimental	No pain	0	0.0%	4	13.3%	**χ2=107.50 p=0.001*** significant**
	Mild pain	6	20.0%	26	86.7%	
	Moderate pain	24	80.0%	0	0.0%	
	Severe pain	0	0.0%	0	0.0%	
	Excruciating pain	0	0.0%	0	0.0%	
	Total	30	100.0%	30	100.0%	

Table 4.4 shows post-assessment level of lower back pain among the post caesarean section women in experimentalgroup after providing lumbar support.

As per thepost-assessment Day 2, 20% of the experimental group women have mild level of pain, 80% of them have moderate level ofpain.

On the post-assessment Day 3, in theexperimental group 13.3% of the women have improved to the level of no pain and 86.7% of the women get the experience of mildlevel of pain.

Objective 3: To assess the post-assessment level of lower back pain among the post caesarean section women in thecontrol groupafter providing conventional measures.

TABLE 4.5 POST-ASSESSMENT LEVEL OF LOWER BACK PAIN IN THE EXPERIMENTAL GROUP

Group	Level ofpain	Post-assessment (Day2)		Post-assessment (Day3)		Chi square test
		n	%	n	%	
Control	No pain	0	0.0%	0	0.0%	**χ2=11.94 p=0.01** significant**
	Mild pain	0	0.0%	0	0.0%	
	Moderate pain	17	56.7%	25	83.3%	
	Severe pain	13	43.3%	5	16.7%	
	Excruciating pain	0	0.0%	0	0.0%	
	Total	30	100.0%	30	100.0%	

Table 4.5 shows the post-assessment level of lower back pain among the post caesarean section women in controlgroup after providing conventional measures.

On thepost-assessment day 2, 56.7% of the women in the control group have moderate level of pain and 43.3% suffer from severe level ofpain.

On the post-assessment day 2, 83.3% of thewomen in the control have moderate level of pain and 16.7%of them feel the severe level of pain.

Objective 4: To compare the preand post-assessment level of lower back pain among post caesarean section women in both experimental and control group.

TABLE 4.6 PRE-ASSESSMENT AND POST-ASSESSMENT LEVEL OF PAIN

Days	**Level ofpain**	**Experimental group**		**Control group**		**Chi square test**
		N	**%**	**n**	**%**	
Pre-assessment (Day1)	No pain	0	0.0%	0	0.0%	$\chi 2=0.28$ p=0.59 Not significant
	Mild pain	0	0.0%	0	0.0%	
	Moderate pain	10	33.3%	12	40.0%	
	Severe pain	20	66.7%	18	60.0%	
	Excruciating pain	0	0.0%	0	0.0%	
	Total	30	100.0 %	30	100.0 %	
Post-assessment (Day 2)	No pain	0	0.0%	0	0.0%	**$\chi 2=20.19$ p=0.001*** significant**
	Mild pain	6	20.0%	0	0.0%	
	Moderate pain	24	80.0%	17	56.7%	
	Severe pain	0	0.0%	13	43.3%	
	Excruciating pain	0	0.0%	0	0.0%	
	Total	30	100.0 %	30	100.0 %	
Post-assessment (Day 3)	No pain	4	13.3%	0	0.0%	**$\chi 2=60.00$ p=0.001*** significant**
	Mild pain	26	86.7%	0	0.0%	
	Moderate pain	0	0.0%	25	83.3%	
	Severe pain	0	0.0%	5	16.7%	
	Excruciating pain	0	0.0%	0	0.0%	
	Total	30	100.0 %	30	100.0 %	

Table 4.6 shows the pre-assessmentand the post-assessment level of lower back pain among the post caesarean section women in both the experimental and the control group.

As on the day 1 of pre-assessment, in the experimental group, 33.3% of the women feel the moderate level of pain and 66.7% have severe level of pain. In the control group, 40.0% of the women experience moderate level of pain and 60% had severe level of pain.

As on the day 2 of thepost-assessment, in the experimental group, 20% of the women undergo the mild level of pain, 80% of them sense the moderate level of pain.
In thecontrol group, 56.7% of the women experience moderate level of pain and 43.3% perceive the severe level of pain.

As on the day 3 of the post-assessment, in theexperimental group 13.3% of the women experience no pain and the remaining 86.7% of them still experience a mildlevel of pain.
In the control group, 83.3% of the women possess slow progress in the moderate level of pain and the rest 16.7% of them sense the severe level of pain.
This difference is enormous and it is a statistical significant in difference. Statistical significance is computed by using chi square test.

TABLE 4.7 PRE AND THE POST-ASSESSMENT LEVEL OF PAIN

Group	Level ofpain	Pre-assessment (Day1)		Post-assessment (Day2)		Post-assessment (Day3)		Chi square test
		n	%	n	%	n	%	
Experimental group	No pain	0	0.0%	0	0.0%	4	13.3%	**χ^2=107.50 p=0.001*** significant**
	Mild pain	0	0.0%	6	20.0%	26	86.7%	
	Moderate pain	10	33.3%	24	80.0%	0	0.0%	
	Severe pain	20	66.7%	0	0.0%	0	0.0%	
	Excruciating pain	0	0.0%	0	0.0%	0	0.0%	
	Total	30	100.0 %	30	100.0%	30	100.0%	
Control group	No pain	0	0.0%	0	0.0%	0	0.0%	**χ^2=11.94 p=0.01** significant**
	Mild pain	0	0.0%	0	0.0%	0	0.0%	
	Moderate pain	12	40.0%	17	56.7%	25	83.3%	
	Severe pain	18	60.0%	13	43.3%	5	16.7%	
	Excruciating pain	0	0.0%	0	0.0%	0	0.0%	
	Total	30	100%	30	100.0%	30	100.0%	

Table 4.7shows the comparison among the day1pre-assessment, day2 post-assessment and day3 post-assessment level of lower back pain in the post caesarean section women in both the experimental and control group.

In the experimental group there is a highly significant decrease in pain and reduction level is statistically significant. In the control group there is a significant decrease in pain and reduction level is minimal significant.

FIGURE 4.11 COMPARISON OF PRE AND POST-ASSESSMENT LEVEL OF LOWER BACK PAIN IN EXPERIMENTAL GROUP

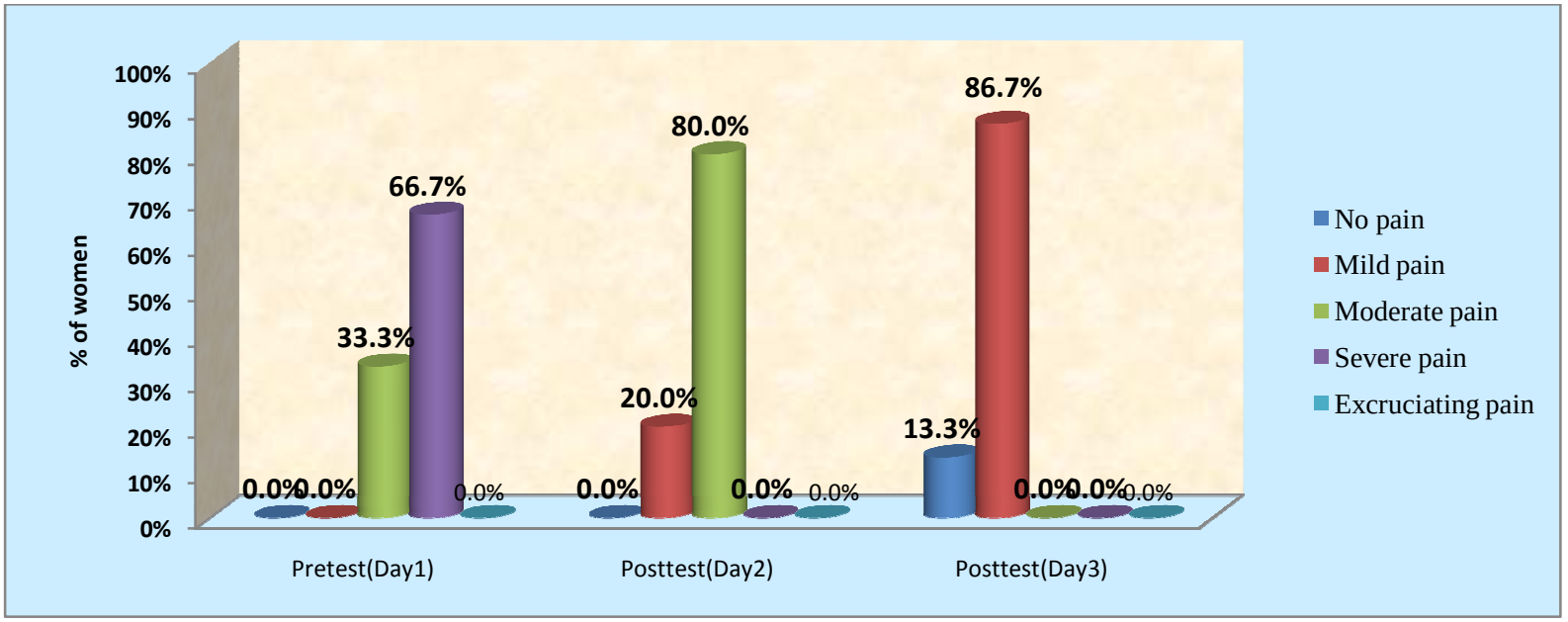


Figure 4.11 depicts that the pain level in experimental group has gradually reduced from moderate to severe pain that is on day1 of no pain to mild pain on day 3.

FIGURE 4.12COMPARISON OF PRE AND THE POST-ASSESSMENT OF LOWER BACK PAIN IN CONTROL GROUP

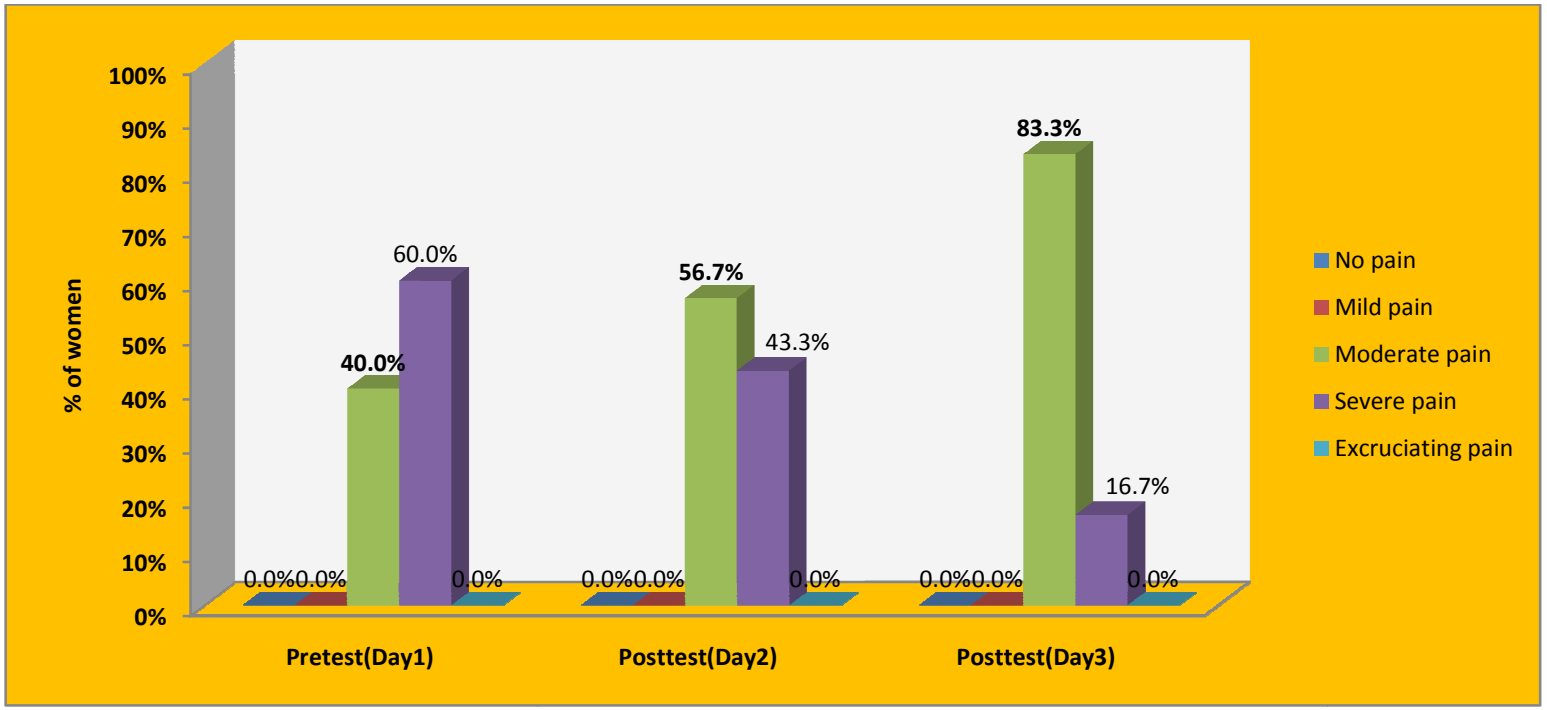


Figure 4.12 indicates that the pain level in the control group has not much reduced from moderate to severe pain on day1. 40% of the women sense the moderate pain and 60% of them experience the severe pain. During the pre-assessment reduction in pain was very slow having 83.3% of the women with moderate and 16.7% women with severe pain.

SECTION D

Table 4.8 COMPARISON OF PAIN SCORE

Days	**No. of women**	**Experimental group**		**Control group**		Student independent t-test
		Mean	**SD**	**Mean**	**SD**	
Day1	30	6.67	0.61	6.60	0.49	t=0.46 P=0.64
Day2	30	4.30	0.87	6.03	1.03	t=7.01 P=0.001***
Day3	30	1.23	0.89	5.20	1.09	t=15.34 P=0.001***

Table 4.8 compares the level of lower back pain among the post caesarean section women between theexperimental and the control group.

Day1, There is no statistical significant difference between the experimental and the control group, but in day2 and day3 there are some significant difference between experimental group and control group women in pain score. It has been figured by using student independent t-test.

Table 4.9 COMPARISONOF PAIN SCORE

Group	No. of children	Day1		Day2		Day3		OnewayANOVA F=test
		Mean	SD	Mean	SD	Mean	SD	
Experimental	30	6.67	0.61	4.30	0.87	1.23	0.40	F=119.22 P=0.001***
Control	30	6.60	0.49	6.03	0.86	5.20	0.71	F=29.79 P=0.001***

Table 4.9 shows the comparison of day1pre-assessment, day2 post-assessment and day3 post-assessment level of lower back pain amongst the post caesarean section women in both the experimentaland the control group. The experimental group women sense the pain on day1, day2 and day3, having the pain score of 6.67, 4.30 and 1.23 respectively. So the difference is 5.54 which is statistically significant.

In the control group women the pain scores are 6.60, 6.03 and 5.20 as on day1, day2 and day3 respectively. So the difference is 1.40 as the pain score. This difference is not so massive and it is minimally significant.

SECTION E

Table 4.10 EFFECTIVENESS OF LUMBAR SUPPORT

Group	Max score	Pre-assessment	Post-assessment	Mean difference with 95% Confidence interval	Percentage difference with 95% Confidence interval
Experimental	10	6.67	1.23	5.54 (5.04-5.82)	**55.4%(50.4%-58.2%)**
Control	10	6.60	5.20	1.40(1.05-1.75)	**14.0%(10.5%-17.5%)**

Table no 4.10 shows the effectiveness of lumbar support for lower back pain.

As on average, experimental women get their pain reduced at themaximumof 55.4%, whereas control group women decreaseto the minimum of 14% in their pain. **This difference shows the effectiveness of lumber support in reducing the lower back pain.**

Differences between thepre and the post-assessment score have been properly analyzed by using the proportion with 95% confidence intervaland mean difference with 95% confidence interval.

FIGURE 4.13COMPARISON OF MEAN PAIN REDUCTION SCORE

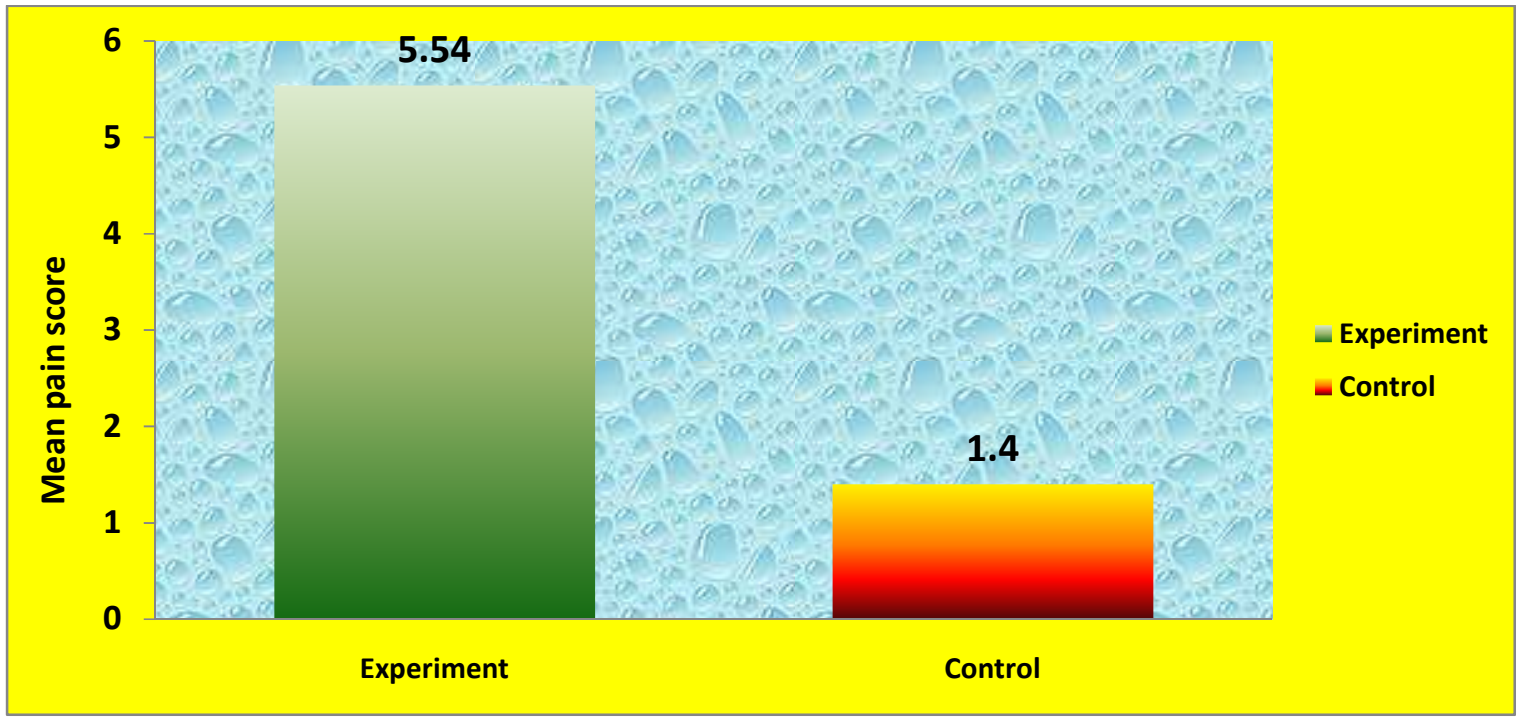


Figure 4.13 depicts that in the experimental group the mean pain score difference is as high as 5.54 which is significant. In the control group the mean pain score difference is 1.4 which is minimally significant.

Objective 5: To associate the pre and the post-assessment level of lower back pain among caesarean section women in both the experimental and the control group with selected demographic variables

SECTION F

Table 4.11 Association between the level of pain reduction score and demographic variable (Experimental group)

Demographic variables		Level of pain reduction				Total	Chi square test
		Below average (<5.5)		Above average (>5.5)			
		n	%	n	%		
Age	<21years	0	0%	0	0%	0	**χ^2=7.50 p=0.01****
	21-35years	9	37.5%	15	62.5%	24	
	36-40years	6	100%	0	0%	6	
	>40years	0	0%	0	0%	0	
Education status	Primary	9	81.8%	2	18.2%	11	**χ^2=7.93 p=0.02***
	Secondary	6	35.3%	11	64.7%	17	
	Diploma or Degree	0	0	2	100%	2	
Occupation	Private	2	50%	2	50%	4	χ^2=4.72 p=0.09
	Coolie	4	100%	0	0%	4	
	Housewife	9	40.9%	13	59.1%	22	
Type of family	Nuclear family	8	61.5%	5	38.5%	13	χ^2=1.22 p=0.26
	Joint family	7	41.2%	10	58.8%	13	
Social support	Husband	3	60%	2	40%		χ^2=1.62 p=0.44
	Mother	9	42.9%	12	57.1%		
	Mother-in-law	3	75%	1	25%		

Table no 4.11 shows the association between the level of pain reduction and their demographic variables . Young and educated women are benefitted more.

FIGURE 4.14ASSOCIATION BETWEEN THE LEVEL OF PAINREDUCTION AND WOMEN'S AGE

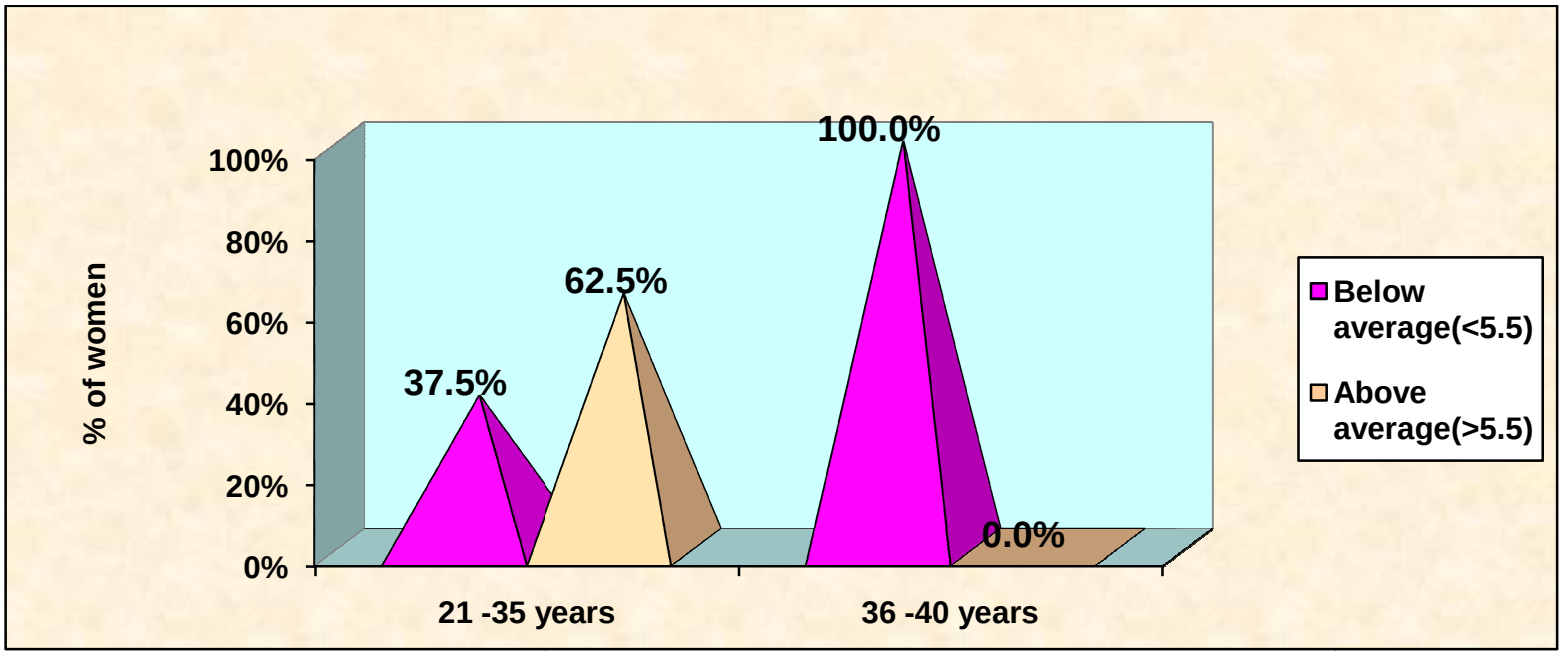


Figure 4.14 shows the association between the level of pain reduction and their demographic variables . Young women are more sensitive towards the lumbar support and get their pain reduced.

FIGURE 4.15 ASSOCIATION BETWEEN THE LEVEL OF PAIN REDUCTION AND EDUCATION STATUS

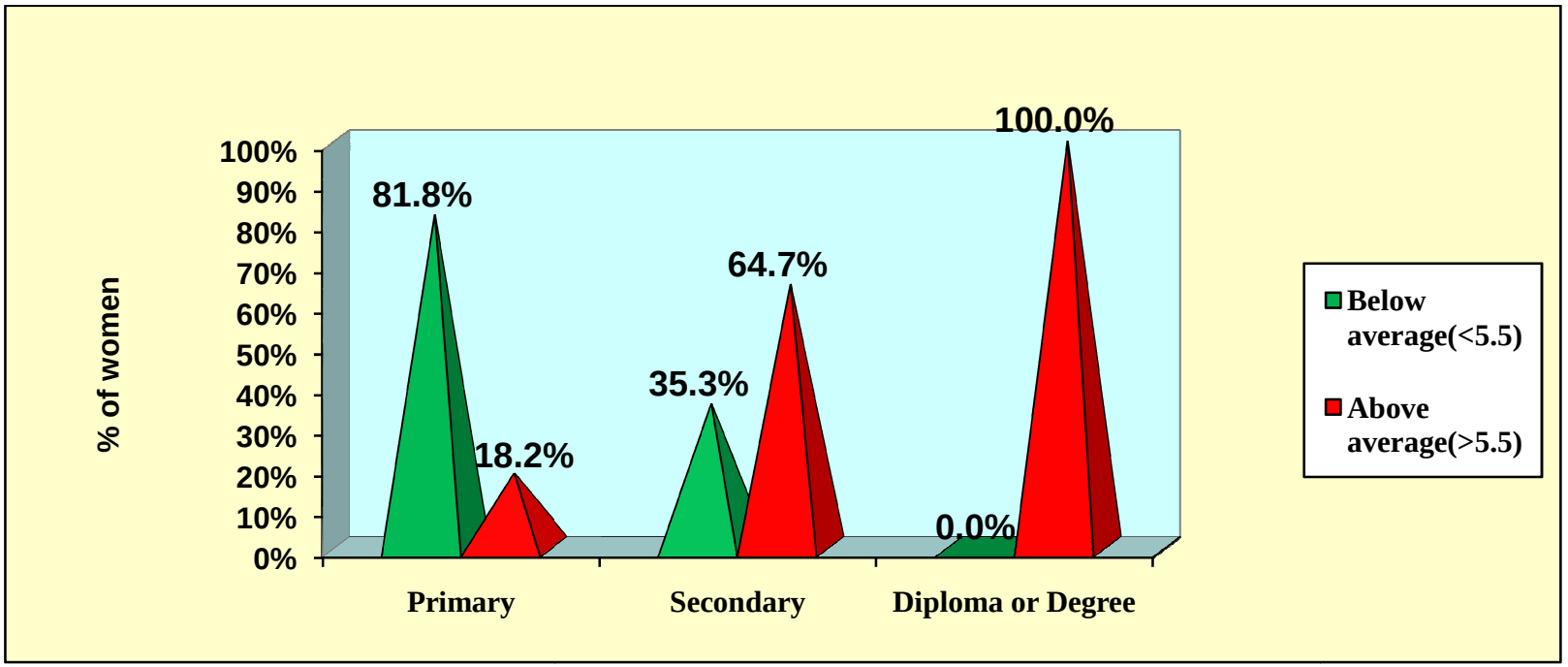


Figure 4.15 shows the association between the levelof pain reductionand their demographic variables. Educated women are benefitted much.

Table 4.12 Association between the level of pain reduction score and obstetric Variables (Experimental group)

Obstetrical data		Level of pain reduction				Total	Chi square test
		Below average (<5.5)		Above average (>5.5)			
		n	%	n	%		
BMI of the mother(Kg/m²)	<18.5	0	0%	0	0%	0	**χ^2=4.66 p=0.03***
	18.5-23	14	60.9%	9	39.1%	23	
	23.1-25	1	14.2%	6	85.8%	7	
	>25	0	0%	0	0%	0	
Baby weight	2.5 - 3.0 kg	12	48%	13	52%	25	χ^2=0.24 p=0.62
	3.1 - 3.5 kg	3	60%	2	40%	5	
Bowel movement	Flatus not passed	0	0%	1	100%	1	χ^2=1.03 p=0.30
	Flatus passed	15	51.7%	14	48.3%	29	
Indication for LSCS	Cephalo-pelvic disproportion	1	20%	4	80%	5	χ^2=2.31 p=0.31
	Meconium stainedliquor	12	54.5%	10	45.5%	22	
	Malpresentation	2	66.7%	1	33.3%	3	
Type of surgery	Elective	3	100%	0	0%	3	χ^2=3.33 p=0.06
	Emergency	12	44.4%	15	55.6%	27	
Anaesthesia	Spinal anaesthesia	15	50%	15	50%	30	χ^2=4.70 p=0.10
Sterilization done	No	15	50%	15	50%	30	χ^2=4.70 p=0.10
Post operative day	3 days	4	26.7%	11	73.3%	15	**χ^2=6.67 p=0.03***
	4 days	7	70%	3	30%	10	
	5 days	4	80%	1	20.0%	5	

Table no 4.12 shows the association between the level of pain reductionand their demographic variables . Women who have their BMI between 23-25 kg/ m^2 and less post-operative days are benefitted more.

FIGURE 4.16ASSOCIATION BETWEEN THE LEVEL OF PAIN REDUCTION AND BMI OF THE WOMEN

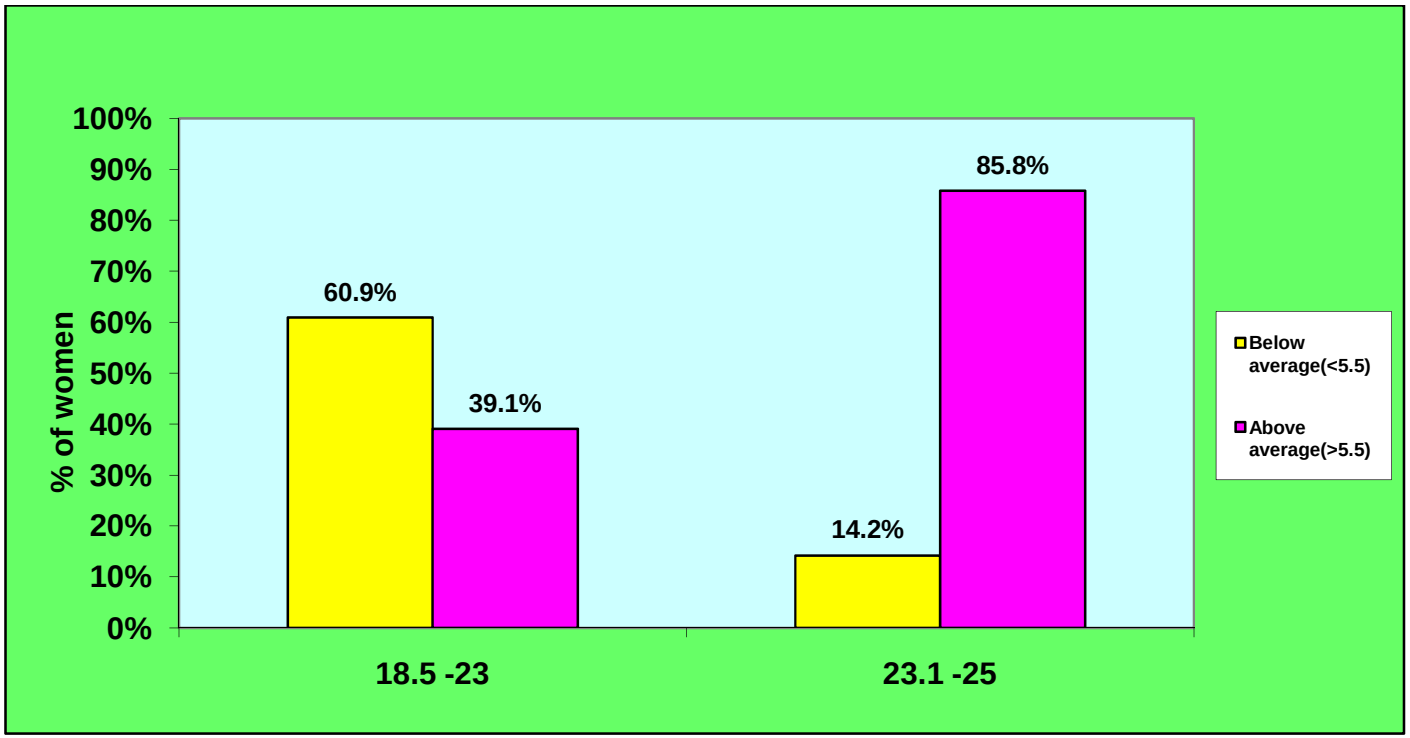


Figure 4.16 shows that women who have their BMI between 23.1-25 Kg/m²are benefitted more in getting their lower back pain reduced by the lumbar support.

FIGURE 4.17ASSOCIATION BETWEEN THE LEVEL OF PAIN REDUCTION AND THE POST OPERATIVE DAYS.

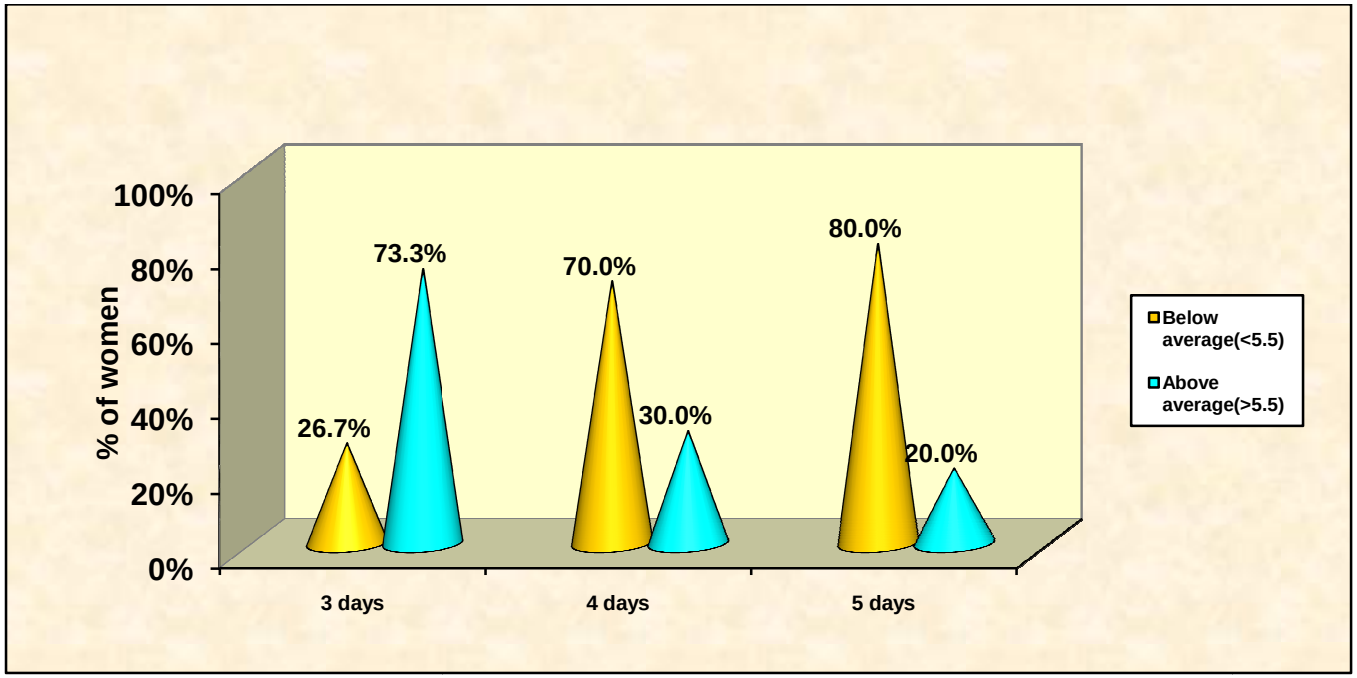


Figure 4.17 depicts that women who are in the early post-operative days benefitted more.

Table 4.13 Association between the level ofpain reduction scoreand demographic variables(Control group)

Demographic variables		Level of pain reduction				Total	Chi square test
		Below average(<1.4)		Above average(>1.4)			
		n	%	n	%		
Age	21 -35 years	14	53.8%	12	46.2%	26	χ^2=1.15 p=0.28
	36 -40 years	1	25.0%	3	75.0%	4	
Education status	Primary	7	58.3%	5	41.7%	12	χ^2=1.86 p=0.39
	Secondary	7	41.2%	10	58.8%	17	
	Diploma or Degree	1	100.0%			1	
Occupation status	Private	1	25.0%	3	75.0%	4	χ^2=3.39 p=0.13
	Coolie	1	20.0%	4	80.0%	5	
	Housewife	13	61.9%	8	38.1%	21	
Type of family	Nuclear family	7	63.6%	4	36.4%	11	χ^2=1.29 p=0.25
	Joint family	8	42.1%	11	57.9%	19	
Social support	Husband	1	14.2%	6	85.8%	7	χ^2=4.70 p=0.10
	mother	12	60.0%	8	40.0%	20	
	mother-in-law	2	66.7%	1	33.3%	3	

Table no 4.13 shows the association between the level of pain reduction and their demographic variables . None of the variables is significantly associated.

Table 4.14 Association between level ofpain reduction score and obstetric variables(Control group)

obstetric variables		Level of pain reduction				Total	Chi square test
		Below average(<1.4)		Above average(>1.4)			
		n	%	n	%		
BMI of the mother	18.5 -23	14	60.9%	9	39.1%	23	$\chi2$=0.18 p=0.66
	23.1 -25	1	14.2%	6	85.8%	7	
Baby weight	2.5 - 3.0 kg	12	48.0%	13	52.0%	25	$\chi2$=0.24 p=0.62
	3.1 - 3.5 kg	3	60.0%	2	40.0%	5	
Bowel movement	Flatus not passed			1	100.0%	1	$\chi2$=1.03 p=0.30
	Flatus passed	15	51.7%	14	48.3%	29	
Indication for LSCS	Cephalo-pelvic disproportion	1	20.0%	4	80.0%	5	$\chi2$=3.33 p=0.18
	Meconium stainedliquor	12	54.5%	10	45.5%	22	
	Malpresentation	2	66.7%	1	33.3%	3	
Type of surgery	Elective	3	100.0%			3	$\chi2$=1.15 p=0.28
	Emergency	12	44.4%	15	55.6%	27	
Anaesthesia	Spinal anaesthesia	15	50.0%	15	50.0%	30	$\chi2$=4.70 p=0.10
Sterlization done	No	15	50.0%	15	50.0%	30	$\chi2$=4.70 p=0.10
Post op day	3 days	4	26.7%	11	73.3%	15	$\chi2$=0.68 p=0.41
	4 days	7	70.0%	3	30.0%	10	
	5 days	4	80.0%	1	20.0%	5	

Table4.14 shows the association between the level of pain reduction and their obstetric variables. None of the variables is significantly associated.

CHAPTER V

DISCUSSION

Many women have severe lower back pain during their recovery fromcaesarean section which radiates from the sacrum, upper buttocks and the crest of the hips. Another reason for back pain following a caesarean section occurs because the upper layer of skin accumulates in the spine during the surgery lead to back pain after the surgery. There is a shifting of balance from the abdominal muscles to the back muscles, overextending the pelvic muscles, and disturbing their fragile spinal bones. By practicing lumbar support the women can get their long term back pain reduced.

FIRST OBJECTIVE IS TO ASSESS THE PRE-ASSESSMENT LEVEL OF LOWER BACK PAIN AMONG THE POST CAESAREAN SECTION WOMEN.

Ajeet S, Nandkishore K (2013) conducted a study among 272 women cesarean section was unacceptably high and significantly higher. In that one third of the women reported lumbar back pain. High caesarean birth rates present an issue of international public health concern. So 82 women suffered from back pain.

The present study has revealed that the pre-assessment level of lower back pain among the post caesarean section women in both the experimentaland the control group. In the experimental group, 33.3% of the women perceived moderate level of pain, 66.7% sensed the severe level pain. In the control group, 40.0% of the women suffered from moderate level of pain, whereas remaining 60% were having severe pain.This difference is large and it is statistically significant.

SECOND OBJECTIVE IS TO ASSESS THE POST-ASSESSMENT LEVEL OFLOWER BACK PAIN AMONG THE POST CAESAREAN SECTION WOMEN AFTER USING LUMBAR SUPPORT.

Aota Y, et al (2007)compared with no lumbar support, a significant improvement in visual analogue scale scoresfor lower back pain, stiffness, and fatigue was obtained with lumbar support in the post caesarean section women ($P < 0.005$). A significant ($P < 0.005$)improvement for buttock numbness was obtained only with lumbar support. There were statistical differences in all VAS scores lumbar support.

Inthe present study, post-assessment level of lower back pain among the post caesarean section women in the experimentalgroup on day 2 was that 20% of the women suffered from mild level of pain and 80% of the women progressed to moderate level ofpain.On day 3, among the experimental group women, 13.3% of them had no pain and 86.7% of the women experienced mildlevel of pain.So the difference is 5.44 of pain score which is large and statistically significant.

THIRD OBJECTIVE IS TO ASSESS THE POST-ASSESSMENT THE LEVEL OF LOWER BACK PAIN AMONG POST CAESAREAN SECTION WOMEN IN CONTROL GROUP AFTER PROVIDING CONVENTIONAL MEASURES.

In this present study, on day 2, 56.7% of the control group women perceived moderate level of pain and the remaining 43.3% sensed the severe level of pain. On day 3, incontrol group 83.3% of the women progressed to moderate level of pain and 16.7% of them still had severe level of pain. So the difference is 1.40 of pain score.

FOURTH OBJECTIVE IS TO ASSESS THE EFFECTIVENESS OF LUMBAR SUPPORT BY COMPARING THE PRE-ASSESSMENT AND THE POST-ASSESSMENT LEVEL OF LOWER BACK PAIN

Van Duijvenbode I, et al (2011) concluded that there was a conflicting evidence (two studies, 550 people) whether back supports are better than nothing in helping lower back pain patients return to work faster or not, however in three studies (410 patients), they were better than nothing in helping individuals with sub-acute and chronic lower back pain recovery function in short term.

The present study has found that comparison of day1pre-assessment, day2 post-assessment and day3 post-assessment level of lower back pain among the post caesarean section women in both the experimental and the control group is quite significant. The experimental group women had the pain scores of 6.67 on day 1,4.30 on day2 and 1.23pain score on day 3. So the difference is 5.54 which is large and it is statistically significant.Hence the hypothesis is accepted. The control group womenexperienced the pain scores of6.60, 6.03, 5.20pain score. This difference is not very large and it is statistically less significant.

FIFTH OBJECTIVE IS TO ASSOCIATE THE PRE-ASSESSMENT AND POST-ASSESSMENT LEVEL OF LOWER BACK PAIN AMONG POST CAESAREAN SECTION WOMEN IN BOTH EXPERIMENTAL AND CONTROL GROUP WITH SELECTED DEMOGRAPHIC VARIABLES.

Mogren IM, Eur Spine J(2007) studied about lower back and pelvic pain is prevalent duringpost-partum.Forty percent of the respondents had received epidural anesthesia or spinal anesthesia during delivery and 18.5% of women had been delivered by caesarean section. Epidural or spinal anesthesia was not associated with persistent lower back pain. Lower back and pelvic pain is prevalent during pregnancy and also post-partum. Elective caesarean section was

associated with an increased risk of persistent lower back pain. Epidural or spinal anesthesia was not associated with risk of persistent lower back pain.

Kovacs FM, Garcia E, Royuela A, González L, Abraira V (2012) conducted a study on lower back painwhich is related or unrelated to previous pregnancy and postpartum, pain augmenting with time spent in bed, and anxiety. The factors associated with a higher likelihood of reporting lower back pain were lower academic level, younger age, depression, a lower number of hours of sleep per day and a higher BMI.

Patel RR, Peters TJ, Murphy DJ, Acta Obstet Gynecol Scand (2007) found thatantenatal and postnatal back pain are common. Elective caesareansection does not protect against postnatal back pain. Neither emergency caesarean section nor assisted vaginal delivery increases the risk of postnatal back pain compared with spontaneous delivery.

The present study revealed that young and educated are benefitted more. There are association between the levelof pain reductionand their demographic variables. Women who have their BMI between 23-25 $Kg/m^2$and less postoperative day benefitted more.

CHAPTER VI

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 SUMMARY

Recent studies have revealed that the rate of women undergoing caesarean section is in an increasing trend. Lower back pain is one of the major annoying discomforts for the women during the early and the post-operative period. When it happens to a mother who has to get her health restored after caesarean section, she has an added responsibility to care for her newborn baby. It is an important health aspect to be taken care off. Root cause for this back pain is found to be that women are not maintaining the neutral position after the surgery due to various reasons such as pain at the suture site in the lower abdomen and breast feeding. Keeping this in mind the study, was selected to assess the effectiveness of simple and affordable comfort aid, pillow, to serve as lumbar support, to support the back to reduce and prevent the lower back pain among these women.

A formal written permission was obtained from the Director of Institute of Obstetrics and Gynaecology, Egmore, Chennai-08. A true experimental study design has been adopted and data were collected from 60 post caesarean section women in the post-operative wards. Simple random sampling technique has been followed to select the samples. The data were collected by employing structured interview schedule and using modified combined categorical numerical pain scale for the 10-15 minutes between 11.00 am and 02.00 pm. The investigator has ensured the privacy, dignity and confidentiality of the women during data collection procedure.

6.2 MAJOR FINDINGS OF THE STUDY

- 80% (experimental) and 86.7%(control) of the women belong to the age group of 21-35 years.

- 56.7% of the women have studied up to the level of higher secondary education.
- 73.4%(experimental) and70% (control) of the women are housewives.
- Most of the women both in the experimental (56.7%) and the control (63.3%) group hail from joint family.
- Most of the women are supported by their women in both the experimental (70%) and the control (66.7%) group.
- 73.3% (experimental) and 70% (control) of women are indicated to undergo caesarean section formeconium stained liquor (fetal distress).
- 80% (experimental) and 76.7% (control) of the women BMI fall between 18-25Kg/ m^2.
- 83.3% (experimental) and 76.7% (control) of women delivered the babies weighed with the range between 2.5- 3.0 kg.
- 50% (experimental) and 73.3% (control) of the women were chosen for the study on the third day, rest of the women have been confiscated from the fourth day onwards.
- In the pre-assessment among the experimental group, majority of the women could sense the severe level of pain that is 66.7% and 33.3% of them experienced the moderatelevel of pain.In the control group, 40.0% of the women suffered from moderate level ofpain and 60% suffered from severe level ofpain.
- In the post-assessment, 13.3% of the women in the experimental group felt no pain, 86.7% of them faced mildlevel of pain. In thecontrol group, 83.3% of the women had the moderate level of pain, 16.7% of them had severe level of pain.In the experimental group there is a significant

decrease in pain and reduction level is statistically significant. In the control group there is a minimum decrease in pain and reduction level is statistically less significant.

- As onaverage,experimental women got reduced the pain of 55% score whereas the control group women got their pain reduced at the score of 14%.
- In the experimental group the mean pain score difference is as high as 5.54 which is significant. In the control group the mean pain score difference is 1.4 which is less significant.
- Young women are more sensitive to the lumbar support and got their pain reduced.
- Educated women are benefitted more.
- Women who have their BMI between 23-25 m^2/kg, benefitted more in getting their lower back pain reduced.
- Women who are in the early post-operative days benefitted more.

6.3 CONCLUSION

Women's wellness bring stable health not only to her but also to the entire family and which will result in improving the country. Women who have back pain cannot execute their duties well at home as well in rearing up the children. That's why it is very essential to improve the quality of the women's life. In this context the present study's results have shown significant outcome in reduction of lower back pain by using lumbar support.

Exercising this back support whenever the post caesarean section women sit up, will reduce the back pain and will bring healthy life. By practicing this

lumbar support, at the early stage of post- operative period, will not lead to chronic back pain in long term.

Young women are willing to modify their posture thereby recovering from their back pain. Women who have normal BMI, benefit more from this nursing intervention.

6.4 IMPLICATIONS OF THE STUDY

Conducting such studies will not be fruitful unless we implement the outcome into our practice. So, every evidence based on intervention play a major role in forming the protocol and guideline for the practice.

NURSING ADMINISTRATION

The present study conducted at Institute of Obstetrics and Gynaecology, Egmore, Chennai-08, finds that lumbar support reduces lower back pain in the post caesarean section women. This study's results can be forwarded to the policy makers of the hospitals. Then the intervention could be included in the nursing care protocol. This care aspect of the intervention should be spread across the health care providers and encouraged to practice to improve the wellness of the women.

NURSING EDUCATION

Nursing care will be strengthened only if the nursing students come up with the strong knowledge basically. In the Nursing Education Institutions, Nurse Educators are in the responsible positions to update the student nurses about the evidence based practices. In the clinical care settings, the In-service Educators are encouraged to provide updates to the nurses about the evidence based care.

NURSING PRACTICE

The purpose of getting educated and providing knowledge is to bring behavioral change. First line nursing care providers play a key role in upgrading

and standardization of the nursing practice. Both in the view of preventive and treatment aspects, the nurses are encouraged to practice in providing lumbar support to the post caesarean section women as a part of post-operative nursing care management.

NURSING RESEARCH

The present study can lay a platform for the Nurse Researchers to conduct future studies on the same ground which will enhance evidence based practice and continuous improvement in nursing care.

6.5 RECOMMENDATIONS

Based on the present study findings, the following recommendations can be applied for future studies.

- A similar study can be conducted with larger population which can be generalized.
- An in depth study can be conducted to assess the long term back pain.
- Experimental study can be carried out to assess the effectiveness of lumbar support to reduce lower back pain among all other lower abdominal surgeries.
- Because none of the studies has evaluated the effectiveness of lumbar supports in the secondary prevention of low back pain, future studies (if any) could focus on this topic. Future trials should be of high quality and special attention should be paid to adequate compliance.

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WEBPAGE

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TOOL

A. DEMOGRAPHIC VARIABLES

1. Age

a) <21 years ☐

b) 21-35 years ☐

c) 36-40 years ☐

d) 41-45 years ☐

2. Educational status

a) Non-formal education ☐

b) Primary education ☐

c) Secondary education ☐

d) Diploma or Degree ☐

3. Occupation

a)Professional education ☐

b) Private ☐

c) Coolie ☐

d) Housewife ☐

4. Type of family

a) Nuclear family ☐

b) Joint family ☐

c) Extended family ☐

5. Social support

a) Husband ☐

b) Mother ☐

c) Sister ☐

d) Mother in law ☐

B) OBSTETRICALDATA

1. BMI of the mother

a) <18.5Kg/m² ☐

b) 18.5-23 Kg/m² ☐

c) 23.1-25 Kg/m² ☐

d) >25 Kg/m² ☐

2.Baby weight

a) 2.5 - 3.0 Kg ☐

b) 3.1 – 3.5 Kg ☐

3. Bowel movement

a) Flatusnot passed ☐

b) Flatus passed ☐

4. Indication for caesarean section

a) Cephalo-pelvic disproportion ☐

b) Meconium stained liquor ☐

c) Mal presentation ☐

d) Obstructed labour ☐

5. Types of surgery

a) Elective ☐

b) Emergency ☐

6. Caesarean section performed under

a) Generalanaesthesia ☐

b) Spinal anaesthesia ☐

7. Whether sterilization done along with caesarean section

a) Yes ☐

b) No ☐

8. Postoperative day

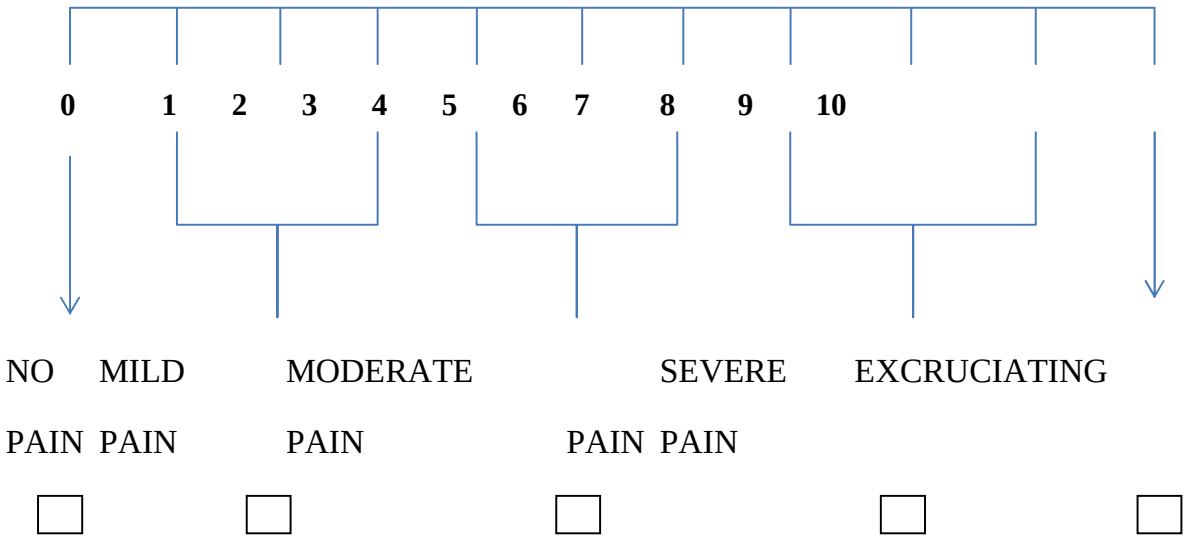
a) 3 ☐

b) 4 ☐

c) 5 ☐

d) 6 ☐

MODIFIEDCOMBINEDCATEGORICALNUMERICALPAINSCALE



அறுவைசிகிச்சைமூலம்பிரசவித்ததாய்மார்களின்கீழ்முதுகுப்பகுதியி ன்வலியைஅறிய உதவும்வடிவமைக்கப்பட்டநேர்காணல்

பிரிவு-அ மக்கள் தொகை கணிப்பியல் சார்ந்த புள்ளிவிவரத் தகவல்கள்

- சரியான தகவலை அதற்கு நேராக உள்ள கட்டத்தில் சரி குறியிட்டு நிரப்புக.
- இந்த ஆராய்ச்சியில் சேகரிக்கப்படும் தகவல்கள் அனைத்தும் ரகசியமாக பாதுகாக்கப்படும்.

1) வயது (ஆண்டுகளில்)

அ) <21 ☐

ஆ) 21-35 ☐

இ) 36-40 ☐

ஈ) 41-45 ☐

2) கல்வித் தகுதி

அ) அனுபவக் கல்வி ☐

ஆ) ஆரம்பக் கல்வி ☐

இ) மேல்நிலைக் கல்வி ☐

ஈ) பட்டதாரி ☐

3) பணி விவரம்

அ) தொழில் துறை வேலை ☐

ஆ) கம்பெனி வேலை ☐

இ) கூலி வேலை ☐

ஈ) வேலைக்குச் செல்லாதவர் ☐

4) குடும்ப வகை

அ) தனிக் குடும்பம் ☐

ஆ) கூட்டுக் குடும்பம் ☐

5) சமூக உதவி

அ) தாய் ☐

ஆ) மாமியார் ☐

இ) சகோதரி ☐

ஈ) கணவர் ☐

பிரிவு-ஆ மகப்பேறு சம்பந்தமான தகவல்கள்

- சரியான தகவலை அதற்கு நேராக உள்ள கட்டத்தில் சரி குரியிட்டு நிரப்புக.
- இந்த ஆராய்ச்சியில் சேகரிக்கப்படும் தகவல்கள் அனைத்தும் ரகசியமாக பாதுகாக்கப்படும்.

1) தாயின் உடல் பருமனின் அளவு

அ) <18.5 கிலொகிராம்/மீ² ☐

ஆ) 18.5-23 கிலொகிராம்/மீ² ☐

இ) 23-25 கிலொகிராம்/மீ² ☐

ஈ) >25 கிலொகிராம்/மீ² ☐

2) குழந்தையின் பிறப்பு எடை

அ) 2.5 - 3.0 கிலொகிராம். ☐

ஆ) 3.1 – 3.5 கிலொகிராம். ☐

3) காற்றுபிறிதல்

அ) காற்றுபிறிந்தது ☐

ஆ) காற்றுபிறியவில்லை ☐

4) அறுவை சிகிச்சை முறையில் பிரவித்ததற்கான காரணம்

அ) முந்தைய பிரசவம் அறுவை சிகிச்சைமூலம் ☐

ஆ) பனிக்குட நீரில் சிசுவின் முதல் மலம் கலந்ததால் ☐

இ) பிழைப் பிரசவம் ☐

ஈ) தடைப் பட்ட பிரசவம் ☐

5)அறுவை சிகிச்சையின் வகை

அ) தேர்தல் முறை அறுவை சிகிச்சை வகை ☐

ஆ) அவசர கால அறுவை சிகிச்சை வகை ☐

6) மயக்கமருந்து கொடுக்கப் பட்ட வகை

அ) பொது மயக்க மருந்து ☐

ஆ) முதுகு மயக்கமருந்து ☐

7) பிரசவ அறுவை சிகிச்சையின் போது குடும்பக் கட்டுப்பாட்டு அறுவை சிகிச்சையும் செய்யப்பட்டதா?

அ) ஆம் ☐

ஆ) இல்லை ☐

8) அறுவை சிகிச்சை செய்த பிறகு இன்று எத்தனாவது நாள்?

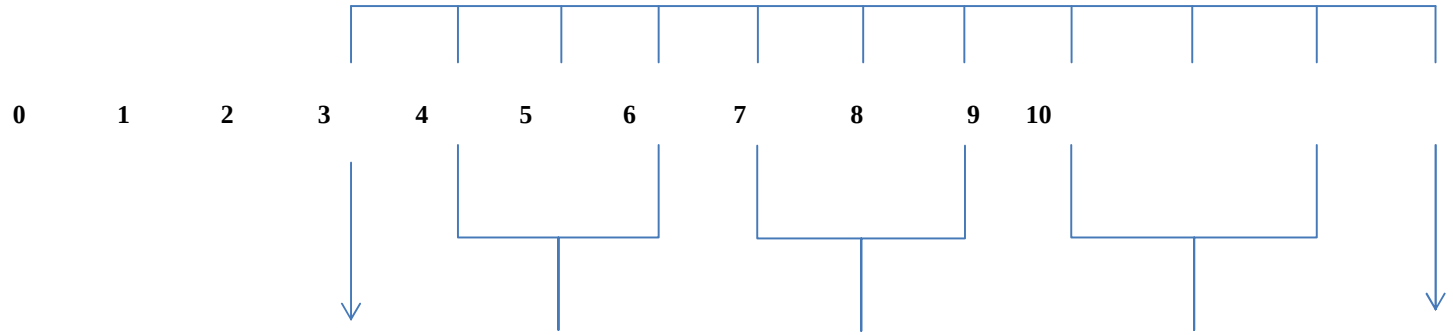
அ) 3 ☐

ஆ) 4 ☐

இ) 5 ☐

ஈ) 6 ☐

திருத்தப்பட்டவை ஒருங்கிணைந்த ஆணித்தரமான எண் வலி அளவியல்



☐ -- வலி இல்லை

☐ -- மிகக்குறைந்த வலி

☐ --மிதமான வலி

-- கடுமையான வல☐

☐ -- மிகத்துன்புறுத்துகிற வலி

ஆய்வு தகவல் தாள்

பங்கேற்பாளர் பெயர் :

ஆராய்ச்சியாளர் பெயர் :

ஆய்வு தலைப்பு : அறுவை சிகிச்சை மூலம் பிரசவித்த தாய்மார்களின் இடுப்புப் பகுதியில் ஏற்படும் வலியை, இடுப்புப் பகுதியை தாங்கிப் பிடிப்பதன் மூலம் குறைப்பதற்கான ஓர் ஆய்வு.

இந்த ஆய்வு சென்னையில் உள்ள தாய், சேய் மற்றும் குழந்தைகள் நல மருத்துவமனையில் அனுமதிக்கப்பட்ட அறுவை சிகிச்சை மூலம் பிரசவித்த தாய் மார்களின் உள்நோயாளிகள் பிரிவில் மேற்கொள்ளப்பட உள்ளது.

நீங்கள் இந்த ஆய்வில் பங்கேற்க அழைக்கிறோம். நீங்கள் இந்த ஆய்வில் பங்கேற்கலாமா அல்லது வேண்டாமா என்பதை முடிவு செய்ய இந்த ஆவணத்தில் உள்ள தகவல் உதவியாக இருக்கும். உங்களுக்கு ஏதேனும் சந்தேகம் இருந்தால் நீங்கள் எங்களிடம் வெளிப்படையாக கேட்கலாம்.

எங்களுடைய அடிப்படை தகுதிகளில் நீங்கள் திருப்தியாக இருப்பதால் உங்களை இந்த ஆய்வில் பங்கேற்க அழைக்கிறோம்.

<u>ஆய்வின் நோக்கம் மற்றும் செயல்பாடு:</u>

அறுவை சிகிச்சை மூலம் பிரசவித்த தாய்மார்களின் இடுப்புப் பகுதியில் ஏற்படும் வலியை, இடுப்புப் பகுதியை தாங்கிப் பிடிப்பதன் மூலம் குறைப்பதற்கான ஓர் ஆய்வு.

இந்த ஆய்வில் உங்கள் பெயர், வயது, பரிந்துரைக்கப்பட்ட மருந்துகளின் பெயர் மற்றும் சிகிச்சை கால அளவு ஆகிய தகவல்களை பெற்றுக் கொள்வோம்.

<u>சில தகவல்கள் உங்களிடம் பெறப்படும்:</u>

உங்களுக்கு உங்களுடைய மருதுவத் தகவலை இரகசியமாக வைத்துக் கொள்ள உரிமை உண்டு. இந்த ஆய்வில் கையொப்பமிடுவதால் நீங்கள் உங்களுடைய தகவலை ஆய்வுக் குழு மற்றும் நிறுவனத்திடம் காட்ட வேண்டும். இந்த ஆராய்ச்சியின் தகவல்கள் விங்ஙான இத்ழ்கள் மற்றும் விங்ஙான கூடத்தில் வெளியிடப்பட்டாலும் உங்களுடைய அடையாளங்கள் காட்டப்பட மாட்டாது.

ஆராய்ச்சியாளர் கையொப்பம்

தேதி:

பங்கேற்பாளர் கையொப்பம்

தேதி:

<u>சுய ஒப்புதல் படிவம்</u>
<u>ஆய்வு செய்யப்படும் தலைப்பு</u>

அறுவை சிகிச்சை மூலம் பிரசவித்த தாய்மார்களின் இடுப்புப் பகுதியில் ஏற்படும் வலியை, இடுப்புப் பகுதியை தாங்கிப் பிடிப்பதன் மூலம் குறைப்பதற்கான ஓர் ஆய்வு.

பங்குபெறுபவரின் பெயர்: வயது: தேதி: உள்நோயாளி எண்:

..... என்பவராகிய நான் இந்த ஆய்வின் விவரங்களும் அதன் நோக்கங்களும் முறையாக அறிந்து கொண்டேன். எனது சந்தேகங்கள் அனைத்திற்கும் தகுந்த விளக்கம் அளிக்கப்பட்டது. இந்த ஆய்வில் முழு சுதந்திரத்துடனும் மற்றும் சுய நினைவுடனும் பங்கு கொள்ள சம்மதிக்கிறேன்.

எனக்கு விளக்கப்பட்ட விஷயங்களை நான் புரிந்துகொண்டு நான் எனது சம்மதத்தைத் தெரிவிக்கிறேன். இச்சுய ஒப்புதல் படிவத்தை பற்றி எனக்கு விளக்கப்பட்டது.

இந்த ஆய்வினைப் பற்றிய அனைத்து தகவல்களும் எனக்கு தெரிவிக்கப்பட்டது. இந்த ஆய்வில் எனது உரிமை மற்றும் பங்கினைப் பற்றி அறிந்து கொண்டேன்.

இந்த ஆய்வில் பிறரின் நிர்பந்தமின்றி என் சொந்த விருப்பத்தின்பேரில் தான் பங்கு பெறுகிறேன் மற்றும் நான் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும் பின்வாங்கலாம் என்பதையும் அதனால் எந்த பாதிப்பும் ஏற்படாது என்பதையும் நான் புரிந்துகொண்டேன்.

இந்த ஆய்வில் கலந்து கொள்வதன் மூலம் என்னிடம் பெறப்படும் தகவலை ஆய்வாளர் இன்ஸ்டிட்யூஷனில் எத்திக்ஸ் கமிட்டியினரிடமோ, அரசு நிறுவனத்தினரிடமோ தேவைப்பட்டால் பகிர்ந்து கொள்ளலாம் என சம்மதிக்கிறேன்.

இந்த ஆய்வின் முடிவுகளை வெளியிடும்போது எனது பெயரோ, அடையாளமோ வெளியிடப்படாது என அறிந்து கொண்டேன். இந்த ஆய்வின் விவரங்களைக் கொண்ட தகவல் தாளைப் பெற்றுக் கொண்டேன். இந்த ஆய்விற்காக இடுப்புப் பகுதியில் தாங்கிப் பிடித்து முதுகின் கீழ்ப்பகுதியில் வலியை குறைக்க சம்மதிக்கிறேன்.

இந்த ஆய்வில் பங்கேற்கும்பொழுது ஏதேனும் சந்தேகம் ஏற்பட்டால், உடனே ஆய்வாளரை தொடர்பு கொள்ள வேண்டும் என அறிந்து கொண்டேன்.

இச்சுய ஒப்புதல் படிவத்தில் கையொப்பமிடுவதின் மூலம் இதிலுள்ள அனைத்து விஷயங்களும் எனக்கு தெளிவாக விளக்கப்பட்டது என்று தெரிவிக்கிறேன். இச்சுய ஒப்புதல் படிவத்தின் ஒரு நகல் எனக்கு கொடுக்கப்படும் என்று தெரிந்து கொண்டேன்.

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ஆரய்ச்சியாளர் கையொப்பம் பங்கேற்பாளர் கையொப்பம்

தேதி: தேதி:

DATA COLLECTION PROCEDURE

AFormal permission from authorities concerned was obtained after the samples were identified by survey as per inclusion and exclusion criteria. Women who had willingness and consented in written have been chosen as samples. As described in the sample selection procedure, simple random sampling technique has been employed to select the samples in the postoperative caesarean section ward. A brief introduction was given to the women from whom data were collected and assured that the data would be kept confidential.

Pre-assessment

1) Sixty women who have undergone caesarean section are selected as samples and divided into two groups named the experimental and the control group respectively.

2) Demographic variables, obstetrical variables and lower back pain using Modified combined categorical numerical pain scale are assessed.

Intervention

3) After the assessment, the experimental group women have been provided with flexible and firm pillow made up of fabrics kept at the lumbar region horizontally. Lumbar support has been provided in the morning, afternoon and evening for about 15 to 20 minutes, whenever the mother sat up and fed the baby. Women have been assessed for 3 days, i.e. from three to seven post-operative days.

4) Mean while the control group women have been equipped with conventional nursing measures.

Post-assessment

5) Both the experimental and the control group women have been assessed for lower back pain using the same Modified combined categorical numerical pain scale on the end of the second day and third day.

6) Average time taken to assess a mother is 10 to 15 minutes.

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI -3

EC RegNo.ECR/270/Inst./TN/2013
Telephone No : 044 25305301
Fax : 044 25363970

CERTIFICATE OF APPROVAL

To
J.Nagalakshmi,
M.Sc.,(N) II year,
College of Nursing,
Madras Medical College, Chennai-3.

Dear J.Nagalakshmi,

The Institutional Ethics committee of Madras Medical College, reviewed and discussed your application for approval of the proposal entitled "A study to assess the effectiveness of lumbar support in reducing lower back pain among women undergone caesarean section at Institute of Obstetrics and Gynaecology, Chennai" No.22072013.

The following members of Ethics Committee were present in the meeting held on 06.07.2013 conducted at Madras Medical College, Chennai -3.

1. Dr.G.SivaKumar, MS FICS FAIS --- Chairperson
2. Prof. R. Nandhini MD -- Member Secretary
   Director, Instt. of Pharmacology ,MMC, Ch-3
3. Prof. Shyamraj MD -- Member
   Director i/c , Instt. of Biochemistry , MMC, Ch-3
4. Prof. P. Karkuzhali. MD -- Member
   Prof., Instt. of Pathology, MMC, Ch-3
5. Prof. Kalai Selvi -- Member
   Prof of Pharmacology, MMC, Ch-3
6. Prof. Siva Subramanian, -- Member
   Director, Instt. of Internal Medicine, MMC, Ch-3
7. Thiru. S. Govindsamy. BABL -- Lawyer
8. Tmt. Arnold Saulina MA MSW -- Social Scientist

We approve the proposal to be conducted in its presented form.

Sd/ Chairman & Other Members

The Institutional Ethics Committee expects to be informed about the progress of the study, and SAE occurring in the course of the study, any changes in the protocol and patients information / informed consent and asks to be provided a copy of the final report.

R Nandini
Member Secretary, Ethics Committee

Ref No 260/CoN/mmc dated 11.7.13

From

Mrs. J. Nagalakshmi,
M.Sc(Nursing) II year student,
College of Nursing,
Madras Medical College,
Chennai-03.

17/7/13 Permitted

To

The Director & Superintendent,
Institute of Obstetrics and Gynaecology,
Egmore,
Chennai-08.

Through the proper channel
Respected Madam,

Sub : Requesting permission to conduct a research study - reg.

I, Mrs.J.Nagalakshmi, studying M.Sc(Nursing) II Year in College of Nursing, Madras Medical College, Chennai-03, kindly request you to grant me permission for the study proposed to conduct on the topic titled **" A study to assess the effectiveness of lumbar support in reducing lower back pain among women undergone Caesarean Section at Institute of Obstetrics and Gynaecology, Chennai-08",** to fulfill the requirement of data collection. I assure you that it will not interfere with the routine activities of the study settings.

Forwarded 11/07/13

Thanking you,

Place: Chennai
Date: 11/07/13

Yours obediently,

J. Nagalakshmi

(J.Nagalakshmi)

CERTIFICATE OF TOOL VALIDATION

This is to certify that the tool constructed by Mrs. J. Nagalakshmi, M.Sc., Nursing II year student, College of Nursing, Madras Medical College, which is to be used in her study titled**"A study to assess the effectiveness of lumbar support in reducing lower back pain among women undergone caesarean section at Institute of Obstetrics and Gynaecology, Chennai-08",**has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

16/8/13

SIGNATURE WITH SEAL

MADHA COLLEGE OF NURSING
16 AUG 2013
CHENNAI - 600 069

NAME : Mrs. KANAGAVALLI. D

DESIGNATION : READER

COLLEGE : MADHA COLLEGE OF NURSING

PLACE : KUNRATHUR, CHENNAI-69.

DATE : 16/08/2013

CERTIFICATE OF TOOL VALIDATION

This is to certify that the tool constructed by Mrs.J.Nagalakshmi, M.Sc., Nursing II year, College of Nursing, Madras Medical College which is to be used in her study titled **"A study to assess the effectiveness of lumbar support in reducing lower back pain among women undergone caesarean section at Institute of Obstetrics and Gynaecology, Chennai."** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

SIGNATURE WITH SEAL

Civil Assistant Surgeon
I.O.G. & Government Hospital
For Women and Children
Egmore, Chennai-8

NAME : DR. M. THANGAMANI

DESIGNATION : Asst Professor

INSTITUTION : Civil Assistant Surgeon
I.O.G. & Government Hospital
For Women and Children
Egmore, Chennai-8

PLACE : CHENNAI - 08

DATE : 04/09/2013

CERTIFICATE OF ENGLSH EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the study titled, **"A study to assess the effectiveness of lumbar support in reducing lower back pain among women undergone caesarean section at Institute of Obstetrics and Gynaecology, Chennai-08"** done by Mrs. J. Nagalakshmi, M. Sc (Nursing) II year student of College of Nursing, Madras Medical college, Chennai-03, is edited for English language appropriateness by Prof. K. MAKESHWARI.

K. Makeshwari

K. MAKESHWARI, M.A., M.Phil., B.Ed.,
Asst. Prof. in English,
DRBCCC HINDU COLLEGE,
Pattabiram, Chennai-600 072.

Date : 7/02/14 SIGNATURE WITH SEAL

Address : DRBCCC Hindu college,
Pattabiram. Chennai-72.